

# Jackass Morwong (2018)

*Nemadactylus macropterus*



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## STOCK STATUS OVERVIEW

Jurisdiction	Stock	Fisheries	Stock status	Indicators
Commonwealth, New South Wales, Tasmania	Eastern	N/A, OTLF, SESSF (CTS), SESSF (GHTS), SF	Sustainable	Estimated biomass, fishing mortality
Commonwealth, Tasmania, South Australia	Western	MSF, SESSF (CTS), SESSF (GHTS), SF	Sustainable	Estimated biomass, fishing mortality

SESSF (CTS) Southern and Eastern Scalefish and Shark Fishery (Commonwealth Trawl Sector) (CTH), SESSF (GHTS) Southern and Eastern Scalefish and Shark Fishery (Gillnet Hook and Trap Sector) (CTH), N/A Not Applicable (NSW), OTLF Ocean Trap and Line Fishery (NSW), MSF Marine Scalefish Fishery (SA), SF Scalefish Fishery (TAS)

## STOCK STRUCTURE

Jackass Morwong (*Nemadactylus macropterus*) are distributed around southern Australia including Tasmania [Jordan 2001]. Genetic studies have found no differences between the stocks; however, otolith microstructure analyses have shown some differences between fish in southern Tasmania, New South Wales and Victoria [Elliott and Ward 1994, Morison et al. 2011, Thresher et al. 1994]. Assessment of Jackass Morwong consider two separate stocks, the Eastern (southern New South Wales to Eastern Tasmania) and Western stocks (Western Tasmania to Western Victoria) [Morison et al. 2011].

Here, assessment of stock status is presented at the biological stock level—Eastern and Western.

## STOCK STATUS

**Eastern** This stock is predominantly caught in the Commonwealth fisheries. Estimated total Commonwealth catch of Jackass Morwong peaked at > 2 500 tonnes (t) during 1960, declined from the mid-1980s onwards, and have continued declining over the past five years to less than 500 t per year in 2017

[Helidoniotis et al. 2017].

The Eastern stock was assessed to be overfished in 2008, with spawning biomass estimated to be below the limit reference point B20 [Stobutzki et al. 2010], resulting in the setting of a zero recommended biological catch (RBC). In 2009, biomass increased slightly above the limit reference point and the depletion was reported to be 0.24B0 in early 2010. However, the stock remained classified as subject to overfishing because the catch in the east exceeded the zero RBC in 2009–10 and the 143 t RBC in 2010–11 fishing seasons [Helidoniotis et al. 2017, Stobutzki et al. 2010].

A new base case assessment was developed in 2011 for the Eastern stock which included productivity changes from 1998 onwards resulting from a 'recruitment shift' due to oceanographic changes [Wayte 2013]. The new base case provided a better fit to the data but the assessment remains sensitive to natural mortality, the last year of recruitment estimation and the stock-recruit relationship [Tuck 2015]. Under the lower productivity scenario, gradual recovery has been observed since 2011. The spawning biomass for the Eastern stock was estimated to have increased from 26 per cent in 2011 to 35 per cent in 2012 and 36.5 per cent of biomass in 1988 in 2016 [Tuck et al. 2015a].

Logbook reported catch for the Commonwealth Eastern stock was 107 t in 2017–18, which was below the RBC of 314 t. This level of fishing mortality is unlikely to cause the stock to become recruitment impaired.

In New South Wales, the commercial catch is principally taken in the Ocean Trap and Line Fishery with insignificant quantities from other fisheries. Annual commercial catch from New South Wales waters has been less than < 7 t in each of the last 10 years. These commercial catches represent less than 3.4 percent of the total cross-jurisdictional catch annually and therefore represent a minor component of the fishing mortality for the stock.

In Tasmania, Jackass Morwong (predominantly the Eastern stock) are taken in the multi-gear, multi-species Tasmanian Scalefish Fishery. In recent years, catches within Tasmanian waters have been low, and relatively stable at < 6 t per year from 2008 to present, with 1.6 t landed in 2017, with 1.55 t of this assumed to be from the Eastern stock [Moore et al. 2018]. Tasmanian commercial catch rates (both stocks combined) have remained stable at a reduced level since 2007–08 [Moore et al. 2018]. The species is a popular recreational target, and recreational catches in Tasmanian waters are estimated to be higher than those of the commercial fishery, with an estimated 16.1 t harvested in 2012–13 [Lyle et al. 2014].

The recent near-negligible catches of Jackass Morwong in State waters are unlikely to cause the biomass of this stock to be recruitment overfished, and the current level of fishing pressure is unlikely to cause the stock to become recruitment impaired.

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

## **Western**

Commonwealth fisheries catches of Western stock reported in logbooks for 2017–18 were 54.5 t, which was well below the RBC of 249 t estimated by the 2015 assessment [Tuck et al. 2015b]. The most recent assessment [Tuck et al. 2015b] estimates that the spawning biomass in 2016 was 69 per cent B0. Catches are unlikely to cause the biomass of this stock to be recruitment overfished, and the current level of fishing pressure is unlikely to cause the stock to become recruitment impaired. The stock is not considered to be recruitment impaired.

The stock assessment of the Western stock is considered somewhat uncertain because significant catch in the Great Australian Bight (GAB) Fishery has not

been included in the assessments or deducted from the RBC. It is not clear how the inclusion of GAB catch would affect the assessments [Stobutzki et al. 2010]. The scarcity of data on recruitment, age composition, length and discards have reduced the ability of assessments to accurately estimate stock status [Tuck et al. 2015b, Wayte and Fay 2010, Wayte 2013].

In Tasmanian waters, commercial catches for the Western stock were estimated to be 0.054 t in 2016–17. No commercial landings were reported in South Australia in 2017. There has been no catch of Jackass Morwong reported in South Australia’s commercial multi-species, multi-gear and multi-sectoral Marine Scalefish Fishery since at least 1984. There is no information available on the catch of Jackass Morwong by Aboriginal and Torres Strait Islander people in South Australian waters. The most recent recreational fishing survey in South Australia in 2013–14 indicated that the annual catch of Jackass Morwong was zero.

For Victoria, commercial catch during the 2017 calendar year was zero. Although recreational catch has occurred it has not been quantified. As the majority of catch is taken in the Commonwealth, catch from Victoria is unlikely influence the biomass of the biological stock

The above evidence indicates that the biomass of this stock is unlikely to be depleted, recruitment is unlikely to be impaired, and 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 Western biological stock is classified as a **sustainable stock**.

## BIOLOGY

**Jackass Morwong biology** [Stobutzki et al. 2010]

Species	Longevity / Maximum Size	Maturity (50 per cent)
Jackass Morwong	20–35 years, ~700 mm TL	3 years, 230–270 mm FL

## DISTRIBUTION



Distribution of reported commercial catch of Jackass Morwong

TABLES

Commercial Catch Methods	Commonwealth	New South Wales	South Australia	Tasmania	Victoria
Danish Seine	✓				
Demersal Gillnet	✓				
Demersal Longline	✓				
Dropline				✓	
Fish Trap		✓			
Gillnet				✓	
Hand Line, Hand Reel or Powered Reels				✓	
Hook and Line					✓
Net					✓
Otter Trawl	✓				
Traps and Pots					✓
Unspecified		✓	✓	✓	✓

Fishing methods	Commonwealth	New South Wales	South Australia	Tasmania	Victoria
<b>Charter</b>					
Hook and Line		✓			
Rod and reel		✓			✓
<b>Commercial</b>					
Danish Seine	✓				
Demersal Gillnet	✓				
Demersal Longline	✓				
Fish Trap		✓			
Gillnet				✓	
Hand Line, Hand Reel or Powered Reels				✓	
Otter Trawl	✓				
Unspecified		✓	✓	✓	
<b>Indigenous</b>					
Gillnet				✓	
Hook and Line		✓		✓	
Rod and reel		✓			
Setline				✓	
<b>Recreational</b>					
Gillnet				✓	

Hook and Line		✓		✓	✓
Rod and reel		✓			
Setline				✓	
<b>Management Methods</b>					
	<b>Commonwealth</b>	<b>New South Wales</b>	<b>South Australia</b>	<b>Tasmania</b>	<b>Victoria</b>
<b>Charter</b>					
Bag and possession limits		✓			
Bag limits		✓			
Fishing gear and method restrictions			✓		
Gear restrictions		✓			
Licence		✓	✓		
Limited entry			✓		
Marine park closures		✓			
Size limit		✓			
<b>Commercial</b>					
Catch limits		✓			
Fishing gear and method restrictions			✓		
Gear restrictions		✓		✓	
Individual transferable quota	✓				
Limited entry		✓	✓	✓	
Marine park closures		✓			
Mesh size regulations		✓			
Size limit		✓		✓	
Spatial closures		✓			
Spatial restrictions			✓		
Vessel restrictions		✓			
<b>Indigenous</b>					
Bag and possession limits				✓	
Bag limits		✓		✓	

Customary fishing permits					✓
Fishing gear and method restrictions			✓		
Native Title		✓			
Section 37 (1d)(3)(9), Aboriginal cultural fishing authority		✓			
Size limit				✓	
<b>Recreational</b>					
Bag and possession limits		✓		✓	
Bag limits		✓		✓	✓
Fishing gear and method restrictions			✓		
Gear restrictions		✓			✓
Licence		✓		✓	✓
Limited entry					✓
Marine park closures		✓			
Size limit		✓		✓	✓
Spatial closures					✓

Active Vessels	Commonwealth	New South Wales	South Australia	Tasmania
	39 Vessels in SESSF (CTS), 5 Vessels in SESSF (GABTS), 31 Vessels in SESSF (GHTS),	12 Fishing Business in OTLF,	0 Licences in MSF, 0 Licences in MSF,	25 Vessels in SF,

**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)

**OTLF** Ocean Trap and Line Fishery(NSW)

**MSF** Marine Scalefish Fishery(SA)

**SF** Scalefish Fishery(TAS)

Catch	Commonwealth	New South Wales	South Australia	Tasmania	Victoria

<b>Commercial</b>	214.31t in SESSF (CTS), 1.82313t in SESSF (GHTS),	0.3t in N/A, 4.707t in OTLF,	0t in MSF,	1.61235t in SF,	
<b>Indigenous</b>	None	Negligible (2013–14)	Unknown	Unknown	Unknown (No catch under permits)
<b>Recreational</b>	None	Negligible (2013–14)	Unknown	16.1 t (in 2012/13)	Unknown

SESSF (CTS) Southern and Eastern Scalefish and Shark Fishery (Commonwealth Trawl Sector) (CTH), SESSF (GHTS) Southern and Eastern Scalefish and Shark Fishery (Gillnet Hook and Trap Sector) (CTH), N/A Not Applicable (NSW), OTLF Ocean Trap and Line Fishery (NSW), MSF Marine Scalefish Fishery (SA), SF Scalefish Fishery (TAS),

**New South Wales – Recreational catch and Indigenous catch** New South Wales Indigenous and Recreational catch estimates of Negligible are based on zero catches of Jackass morwong recorded during the 'Survey of Recreational Fishing in NSW and the ACT, 2013–14' [West et al. 2015].

**New South Wales – (Indigenous management methods)** (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); (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.

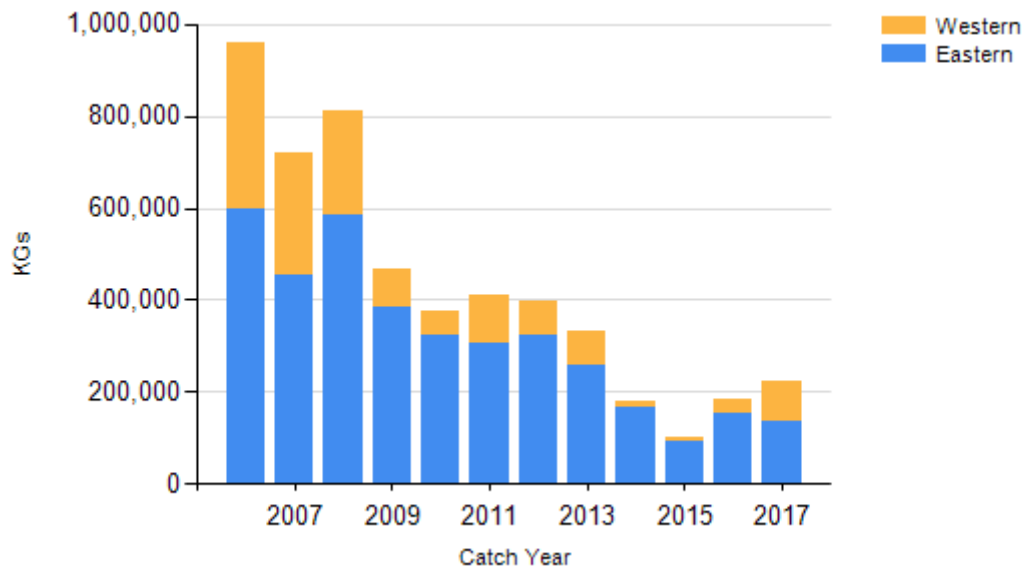
**Victoria – Indigenous** In Victoria, regulations for managing recreational fishing may not apply to fishing activities by Indigenous people. Victorian traditional owners may have rights under the *Commonwealth's Native Title Act 1993* to hunt, fish, gather and conduct other cultural activities for their personal, domestic or non-commercial communal needs without the need to obtain a licence. Traditional Owners that have agreements under the *Traditional Owner Settlement Act 2010* (Vic) may also be authorised to fish without the requirement to hold a recreational fishing licence. Outside of these arrangements, indigenous Victorians can apply for permits under the *Fisheries Act 1995* (Vic) that authorise fishing for specific indigenous cultural ceremonies or events (for example, different catch and size limits or equipment). There were no indigenous permits granted in 2017 and hence no indigenous catch recorded.

**Tasmania – Commercial (catch)** Catches reported for the Tasmanian Scalefish Fishery are for the period 1 July to 30 June the following year. The most recent assessment available is for 2016–17.

**Tasmania – Recreational (management methods)** In Tasmania, a recreational licence is required for fishers using dropline or longline gear, along with nets, such as gillnet or beach seine. A bag limit of 10 individuals and possession limit of 20 individuals (all morwong species combined excluding Banded Morwong) is in place for recreational fishers.

**Tasmania – Indigenous (management methods)** In Tasmania, Indigenous persons engaged in aboriginal fishing activities in marine waters are exempt from holding recreational fishing licences, but must comply with all other fisheries rules as if they were licensed. Additionally, recreational bag and possession limits also apply. If using pots, rings, set lines or gillnets, Indigenous fishers must obtain a unique identifying code (UIC). The policy document Recognition of Aboriginal Fishing Activities for issuing a UIC to a person for Aboriginal Fishing activity explains the steps to take in making an application for a UIC.

## CATCH CHART



Commercial catch of Jackass Morwong - note confidential catch not shown

## EFFECTS OF FISHING ON THE MARINE ENVIRONMENT

### ENVIRONMENTAL EFFECTS on Jackass Morwong

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