

Yelloweye Mullet (2016)

Aldrichetta forsteri



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STOCK STATUS OVERVIEW

Jurisdiction	Stock	Fisheries	Stock status	Indicators
Western Australia	Western Australia	SCEMF, WCEMF	Transitional-depleting	Catch
Victoria	Victoria	CIF, GLF, PPBF	Transitional-depleting	Catch, <u>CPUE</u>
Tasmania	Tasmania	SF	Sustainable	Catch, <u>CPUE</u>
South Australia	South Australia	LCF, MSF	Sustainable	Catch, <u>CPUE</u> , age structure

LCF Lakes and Coorong Fishery (SA), MSF Marine Scalefish Fishery (SA), SF Scalefish Fishery (TAS), CIF Corner Inlet Fishery (VIC), GLF Gippsland Lakes Fishery (VIC), PPBF Port Phillip Bay Fishery (VIC), SCEMF South Coast Estuarine Managed Fishery (WA), WCEMF West Coast Estuarine Managed Fishery (WA)

STOCK STRUCTURE

Yelloweye Mullet is widely distributed along the southern coast of Australia, from Murchison River in Western Australia to Hunter River in New South Wales, and around Tasmania[1]. Yelloweye Mullet typically occur in schools in nearshore marine waters from the intertidal zone to depths of at least 10 m, and are often abundant in estuaries and the lower reaches of rivers[2,3].

The biological stock structure of Yelloweye Mullet in Australia is not well understood. It has been suggested that there are two biological stocks—Western and Eastern—based on morphological differences[4,5]. However, further studies are required to confidently define biological stock delineation for this species.

Here, assessment of stock status is presented at the jurisdictional level—Western Australia, Victoria, Tasmania and South Australia.

STOCK STATUS

South The Lakes and Coorong Fishery (LCF) has traditionally been the most important

Australia of the South Australian fisheries for Yelloweye Mullet, accounting for around 90 per cent of the State's total commercial catch since 2007, with the remainder taken by the Marine Scalefish Fishery[14]. Catches by the recreational sector typically contribute less than 10 per cent of the total combined commercial and recreational catch of this species in South Australia[15]. Commercial landings of Yelloweye Mullet in South Australia peaked at 460 t in 1990 and then progressively declined to 148 t in 2004. This long-term decline likely reflected reductions in targeted effort due a combination of licence buy-backs and low wholesale prices rather than a declining biomass, because estimates of annual catch per unit effort (CPUE) were stable during this period. From 2008–13, CPUE in the LCF increased to historically high levels, with an average annual catch of around 220 t. In 2014, CPUE declined to its lowest level since 2004, before stabilising in 2015. The recent low catch rates, combined with a reduction in targeted effort for the species resulted in a decline in commercial catch to 121 t in 2015.

Interactions between Lakes and Coorong net fishers and Long-nosed Fur Seals (*Arctocephalus forsteri*) have increased in recent years, with reported levels of seal depredation on Yelloweye Mullet caught in mesh nets likely to have contributed to the low catches and catch rates in 2015. The catch decline may also reflect a recent decline in stock abundance. Nonetheless, the recent low levels of catch and CPUE were similar to those observed in the early-2000s, which preceded a substantial increase in catch in the late 2000s. Furthermore, age-structure analysis showed that there has been regular recruitment of young fish to the population since 2012[16]. The above evidence indicates that the biomass of this stock is unlikely to be recruitment overfished, and that the current level of fishing pressure is unlikely to cause the stock to become recruitment overfished.

On the basis of the evidence provide above, Yelloweye Mullet in South Australia is classified as a **sustainable stock**.

Tasmania In Tasmania, Yelloweye Mullet is caught mainly using beach seine nets, with annual commercial catches peaking at around 22 t in 1999–2000, before declining to less than 5 t over the past decade[10]. Targeted beach seine effort on this species has been stable at low levels since 2005–06, while nominal catch rates have remained relatively stable over time with a sharp increase in 2012–13, before declining again to average levels. Recreational fishers in Tasmania target Yelloweye Mullet using mesh nets and seine nets however, increased regulation of recreational netting over the past decade has resulted in a general reduction catch and effort, with around 1.7 t taken by netting in 2009–10[11]. State-wide recreational catch of Yelloweye Mullet was estimated at 7.1 t in 2012–13, which included all fishing methods[12]. Yelloweye Mullet are most abundant in estuarine habitats[13], where netting is prohibited or restricted, thereby providing a high degree of protection for the species throughout most of its range in Tasmania. The above evidence indicates that the biomass of this stock is unlikely to be recruitment overfished, and that the current level of fishing pressure is unlikely to cause the stock to become recruitment overfished.

On the basis of the evidence provided above, Yelloweye Mullet in Tasmania is classified as a **sustainable stock**.

Victoria In Victoria, a total of 38.7 t of Yelloweye Mullet was caught in 2015 by commercial fishers operating in the Corner Inlet, Gippsland Lakes and Port Phillip Bay Fisheries. In the Gippsland Lakes Fishery, 60 per cent of Yelloweye Mullet were caught using mesh nets with the remainder taken using haul seine nets. For mesh nets, average catch rate has declined over the past 30 years, with the present and 5-year moving average catch rate below the long-term

average[6]. Similar declines over the same period for other species were reportedly market driven, and it is unknown whether there has also been a decline in relative abundance[7].

Yelloweye Mullet landed by the Corner Inlet Fishery (CIF) were mainly caught using haul seine nets, with a similar trend in declining catch rate also evident. Average catch rates in the early-1980s were around 13 kg per shot compared with catch rates of around 4 kg per shot in 2014–15. Catch rates for the CIF are presently below the long-term average[8]. For the Port Phillip Bay Fishery, the recent 10-year trend in catch rate is relatively constant, although catch has declined over the past 30 years[9]. Yelloweye Mullet are caught by recreational fishers, but recent catch quantities are unknown. The above evidence indicates that the biomass of this stock is not likely to be recruitment overfished. For the period 1986–2015, the biomass declined, but the stock is not yet considered to be in a recruitment overfished state. The current level of fishing pressure is likely to cause the stock to become recruitment overfished.

On the basis of the evidence provided above, Yelloweye Mullet in Victoria is classified as a **transitional–depleting stock**.

Western Australia

In Western Australia, commercial targeting of Yelloweye Mullet is mainly restricted to estuaries and embayments south of Perth. During the past decade (2006–15), 81 per cent of the total catch in Western Australia was taken by the West Coast Estuarine Managed Fishery (WCEMF) and 14 per cent by the South Coast Estuarine Managed Fishery (SCEMF). The remainder was taken as minor catches in other fisheries. In 2015, a total commercial catch of 10 tonnes (t) was taken in Western Australia. Yelloweye Mullet are caught by recreational fishers, but total catch levels are unknown.

Annual catches in each of the two main commercial fisheries have followed a similar long-term trend. Catches peaked around 1980 and then gradually declined over the following two decades. A sharp drop in catch occurred in each fishery around 2000. Subsequent catches have remained low. Since 2000, the WCEMF catch has continued to decline reaching an historic low of 6 t in 2015, while the SCEMF catch has been stable at around 4 t per year. The long-term decline in catch may reflect reductions in fishing effort (due to licence buy-backs and low wholesale prices). However, the catch decline also appears to reflect a substantial decline in stock abundance. Anecdotal reports from commercial and recreational fishers suggest Yelloweye Mullet abundance in south-western Western Australia is low compared to historic levels. The above evidence indicates that the biomass of this stock is not likely to be recruitment overfished. For the period 1980–2015, the biomass declined, but the stock is not yet considered to be in a recruitment overfished state. The current level of fishing pressure is likely to cause the stock to become recruitment overfished.

On the basis of the evidence provided above, Yelloweye Mullet in Western Australia is classified as a **transitional–depleting stock**.

BIOLOGY

Yelloweye Mullet biology[4,13,14,17]

Species	Longevity / Maximum Size	Maturity (50 per cent)
Yelloweye Mullet	10 years; 440 mm <u>TL</u>	2–3 years; 200–260 mm <u>TL</u>

DISTRIBUTION



Distribution of reported commercial catch of Yelloweye Mullet

TABLES

Commercial Catch Methods	South Australia	Tasmania	Victoria	Western Australia
Beach Seine		✓		
Coastal, Estuary and River Set Nets			✓	
Gillnet		✓		
Haul Seine	✓		✓	
Line			✓	
Mesh Net	✓		✓	
Otter Trawl			✓	
Unspecified		✓		
Various	✓	✓		✓

Fishing methods	South Australia	Tasmania	Victoria	Western Australia
Commercial				
Haul Seine	✓		✓	
Mesh Net	✓		✓	
Unspecified		✓		
Various	✓			✓
Indigenous				
Gillnet	✓		✓	
Hand Line.	✓		✓	

Hand Reel or Powered Reels				
Traditional apparatus	✓			
Recreational				
Beach Seine		✓		
Gillnet	✓	✓		✓
Hand Line, Hand Reel or Powered Reels	✓	✓	✓	✓
Management Methods				
	South Australia	Tasmania	Victoria	Western Australia
Commercial				
Effort limits	✓			
Gear restrictions	✓	✓	✓	✓
Limited entry	✓	✓	✓	✓
Size limit	✓	✓		
Spatial closures	✓	✓	✓	✓
Temporal closures	✓			✓
Vessel restrictions		✓		✓
Indigenous				
Bag limits	✓		✓	✓
Gear restrictions	✓		✓	✓
Size limit	✓		✓	
Spatial closures	✓		✓	
Temporal closures	✓			
Recreational				
Bag limits	✓	✓	✓	✓
Gear restrictions	✓	✓	✓	✓
Licence (boat-based sector)				✓
Size limit	✓	✓	✓	
Spatial closures	✓		✓	

Temporal closures	✓			
Active Vessels				
	South Australia	Tasmania	Victoria	Western Australia
	21 license in LCF, 32 license in MSF,	4 Vessel in SF,	18 Fisher in CIF, 10 Fisher in GLF, 24 Fisher in PPBF,	27 License in SCEMF, 11 License in WCEMF, 69 License in WL (SC), 15 License in WL (WC),

LCF Lakes and Coorong Fishey (SA)

MSF Marine Scalefish Fishery(SA)

SF Scalefish Fishery(TAS)

CIF Corner Inlet Fishery(VIC)

GLF Gippsland Lakes Fishery(VIC)

PPBF Port Phillip Bay Fishery(VIC)

SCEMF South Coast Estuarine Managed Fishery(WA)

WCEMF West Coast Estuarine Managed Fishery(WA)

WL (SC) Open Access in the South Coast(WA)

WL (WC) Open Access in the West Coast(WA)

Catch	South Australia	Tasmania	Victoria	Western Australia
Commercial	105.046t in LCF, 16.144t in MSF,		11.821t in CIF, 15.31t in GLF, 11.67t in PPBF,	4.442t in SCEMF, 6.275t in WCEMF,
Indigenous	Unknown	Unknown	Zero	Unknown
Recreational	19 t (in 2013–14)	7.1 t (in 2012–13)	Unknown	Unknown

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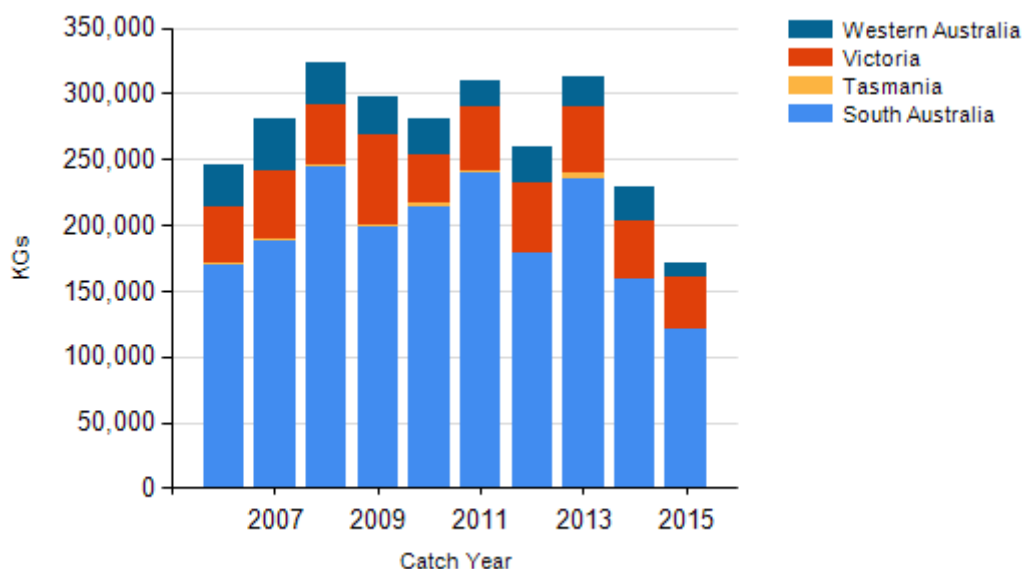
a Tasmania – Recreational (fishing methods) In Tasmania, a recreational licence is required for fishers using dropline or longline gear, along with nets, such as gillnet or beach seine.

b Victoria – Indigenous (management methods) In Victoria, regulations for managing recreational fishing are also applied to fishing activities by Indigenous people. Recognised Traditional Owners (groups that hold native title or have agreements under the Traditional Owner Settlement Act 2010 [Vic]) are exempt (subject to conditions) from the requirement to hold a recreational fishing licence, and can apply for permits under the Fisheries Act 1995 (Vic) that authorise customary fishing (for example, different catch and size limits or equipment). The Indigenous category in Table 3 refers to customary fishing undertaken by recognised Traditional Owners. In 2015, there were no applications for customary fishing permits to access Yelloweye Mullet.

c Tasmania – Indigenous (management methods) In Tasmania, aborigines 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,

aborigines must obtain a unique identifying code (UIC). The policy document Recognition of Aboriginal Fishing Activities for issuing a Unique Identifying Code (UIC) to a person for Aboriginal Fishing activity explains the steps to take in making an application for a UIC.**d**
Victoria – Indigenous (management methods) Subject to the defence that applies under Section 211 of the Native Title Act 1993 (Cth), and the exemption from a requirement to hold a Victorian recreational fishing licence, the non-commercial take by indigenous fishers is covered by the same arrangements as that for recreational fishing.

CATCH CHART



Commercial catch of Yelloweye Mullet - note confidential catch not shown

EFFECTS OF FISHING ON THE MARINE ENVIRONMENT

- Yelloweye Mullet are targeted by commercial fisheries using mainly mesh (gill) nets and hauling nets. These activities are considered to pose a low risk to the environment[18,19].
- Some bycatch may be expected from mesh (gill) nets used to target Yelloweye Mullet, including the capture of undersized individuals of some species[20]. However, these nets are highly selective in their ability to capture target species[18].

ENVIRONMENTAL EFFECTS on Yelloweye Mullet

- Estuaries provide important habitat for Yelloweye Mullet through its life history. The availability of habitat and trophic resources for Yelloweye Mullet in estuaries is largely dependent on seasonal freshwater inflows from inland catchment areas.
- The impact of environmental factors on the spawning dynamics and recruitment of Yelloweye Mullet is unknown.

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