

Silver Warehou (2020)

Seriolella punctata



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STOCK STATUS OVERVIEW

Jurisdiction	Stock	Stock status	Indicators
Commonwealth, New South Wales	Southern and Eastern Australia	Sustainable	Biomass and depletion, fishing mortality, catch, effort, length composition, age composition, discard estimates

STOCK STRUCTURE

Silver Warehou is assessed and managed as a single biological stock around south eastern Australia [Morison et al. 2007]. Genetic studies and otolith microchemistry have shown no differences between the stocks east and west of Bass Strait [Robinson et al. 2008], although some differences have been found in standardised CPUE and biological characteristics of the eastern and western components of the stock [Day et al. 2015].

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

STOCK STATUS

Southern and Eastern Australia Silver Warehou is primarily caught by the Commonwealth managed Southern and Eastern Scalefish and Shark Fishery (SESSF) with smaller catches from New South Wales, Tasmania and South Australian fisheries. Stock status classification reported here is based on stock assessments conducted for the SESSF, which include reported State catches.

Catches of Silver Warehou from Commonwealth fisheries increased progressively from around 1980 and peaked in 2002 (4,450 t) and 2004 (4,435 t). Catches have subsequently declined to around 300 t in recent years.

Data on the New South Wales commercial fishery, including catch of Silver Warehou, are available from 1997–98. Prior to 1999–00, between 10 and 20 t of Silver Warehou was reported in New South Wales commercial fisheries. In each of the years since, the catch of Silver Warehou was <5 t. Annual catches from 1999-00 to 2003-04 were <1.5 t p.a., and since 2010-11, <0.5 t p.a.

Recreational and Indigenous catches of Warehou spp. in New South Wales are unknown. Surveys of Recreational and Indigenous catches have either not specified catches of Warehou species [West et al. 2015, Murphy et al. 2020] or reported them in a broader 'finfish - other' category [Henry and Lyle 2003].

In Tasmania, Silver Warehou has only been fished sporadically. The maximum recorded commercial catch of species of Warehou (*Seriola spp.*) other than Blue Warehou was 15.6 t in 1996/97. The average annual commercial catch of these species over the last decade was 0.2 t, with only 30 kg recorded in 2018/19 [Krueck et al. 2020]. Silver Warehou does not appear to be targeted recreationally in Tasmania [Lyle et al. 2019].

Warehou species are not differentiated in South Australian Fishery logbooks. No commercial catches of Warehou species were reported during the most recent assessment year [Steer et al. 2020]. The most recent recreational fishing survey in South Australia in 2013–14 indicated that the annual catch of Warehou species was zero [Giri and Hall 2015].

Silver Warehou in Commonwealth fisheries is managed as a Tier 1 stock under the SESSF Harvest Strategy Framework [AFMA, 2019]. The 2018 Tier 1 stock assessment [Burch et al. 2019a] informed the management of the stock for the 2019–20 fishing season.

The Tier 1 assessment uses an integrated statistical catch-at-age model, incorporating catch, effort, length composition, age-composition and discard data for the Commonwealth Trawl Sector of the SESSF. Earlier assessments estimated stock depletion at 49% of the unfished spawning stock biomass (0.49SB0) in 2007 [Tuck and Punt 2007], 0.53SB0 in 2008 [Tuck 2008] and 0.48SB0 in 2010 [Tuck and Fay 2009], fluctuating at or above the maximum economic yield (MEY) target of 0.48SB0 [Emery et al. 2020]. However, these assessments estimated that historical recruitment had been fluctuating around average, with a number of years of high recruitment, and used average recruitment from a stock-recruitment relationship in projections. Subsequent assessments have estimated that recruitment has been mostly below average since 2003, repeatedly revising recent recruitment estimates downwards.

The 2018 assessment [Burch et al. 2019a] estimated that the spawning stock biomass at the start of 2018 was 22% of the unfished spawning stock biomass (0.22SB0), which was below the target reference point of 48% (0.48SB0) but above the limit reference point of 20% (0.20SB0). This was a reduction from the 2015 assessment [Thomson et al. 2015], which predicted the spawning biomass to be 40% (0.40SB0) in 2016. The reduction in the spawning stock biomass between assessments was caused by recent recruitment being revised downwards [Burch et al. 2019a]. The 2018 assessment confirmed that biomass has been below the target since 2009 and estimated that it declined to near the 0.20SB0 limit from 2014 to 2017 but was predicted to increase in 2018 (to 0.31SB0 at the start of 2019) assuming that there will be a return to average recruitment levels [Burch et al. 2019]. The stock is therefore unlikely to be depleted and recruitment is unlikely to be impaired.

The Tier 1 assessment in 2018 [Burch et al. 2019a] undertook projections under "low" and "very low" recruitment scenarios. Catches below 600 t under the low recruitment scenario were projected to allow the biomass to gradually increase towards the target reference point, with the risk of falling below the limit reference point being low. This led to AFMA setting a TAC of 450 t for the 2019-20 fishing season.

Commonwealth landed catch in the trawl and scalefish hook sectors of the SESSF was 306.5 t in the 2019–20 fishing season (352 t in 2018-19 fishing season). Discards have been estimated to be 21.4 t based on the weighted average of the previous four calendar years (2015 to 2018) [Burch et al., 2019b], which when combined with average State catch and Commonwealth landings is below the 600 t catch, which was projected to allow the biomass to

gradually increase towards the target reference point, with the risk of falling below the limit reference point being low. 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 Southern and Eastern Australia biological stock is classified as a **sustainable stock**.

BIOLOGY

Silver Warehou biology [Horn and Sutton 1996]

Species	Longevity / Maximum Size	Maturity (50 per cent)
Silver Warehou	23 years, 660 mm TL	3–4 years, mean length at female maturity is about 440 mm LCF

DISTRIBUTION



Distribution of reported commercial catch of Silver Warehou

TABLES

Fishing methods			
	Commonwealth	New South Wales	South Australia
Charter			
Hook and Line			✓
Commercial			
Danish Seine	✓		
Demersal Longline	✓		

Midwater Trawl	✓		
Otter Trawl	✓		
Pelagic Longline	✓		
Various		✓	
Recreational			
Hook and Line		✓	

Management Methods	Commonwealth	New South Wales	Tasmania
Commercial			
Gear restrictions	✓	✓	
Limited entry	✓	✓	✓
Quota	✓		
Size limit			✓
Spatial closures	✓	✓	
Total allowable catch	✓		
Recreational			
Bag and possession limits		✓	✓
Bag limits			✓
Licence		✓	✓
Size limit			✓
Spatial closures		✓	

Catch	Commonwealth	New South Wales	South Australia	Tasmania	Victoria
Commercial	370.383 t	0.1156 t			
Indigenous		Unknown	Unknown	Unknown	Unknown
Recreational		Unknown	Unknown	Unknown	Unknown

Commonwealth – Commercial (Management Methods/Catch) Data provided for the Commonwealth align with the Commonwealth Southern and Eastern Scalefish and Shark Fishery for the 2018-19 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 <https://www.dpi.nsw.gov.au/fishing/aboriginal-fishing>

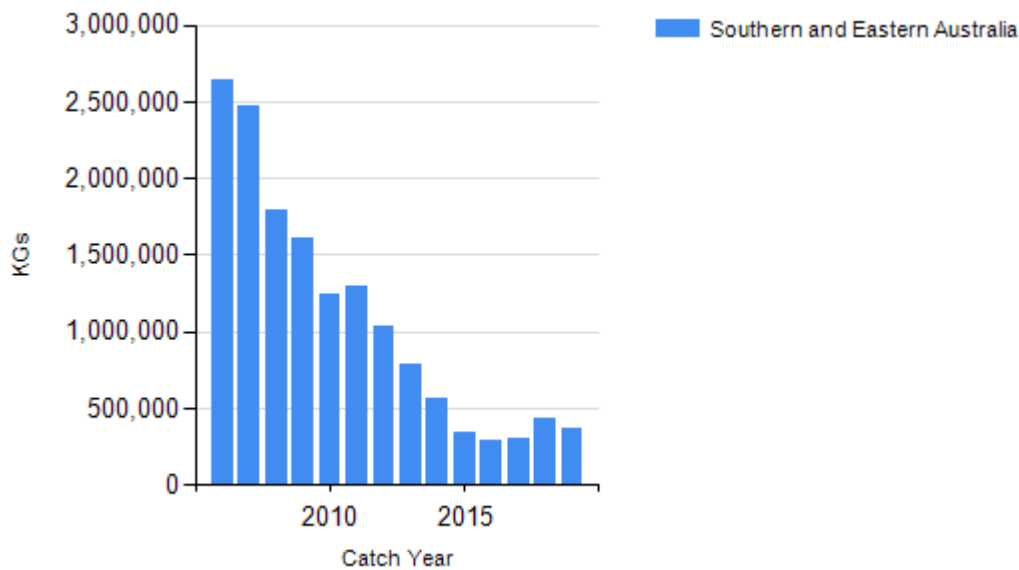
Tasmania - Commercial (catch) Catches reported for the Tasmanian Scalefish Fishery are for the period 1 July to 30 June the following year. The most recent assessment available is for 2018/19.

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. The species is subject to a minimum size limit of 250 mm total length. A bag limit of 10 fish and a possession limit of 20 fish is in place for recreational fishers.

Tasmania - Indigenous (management methods) In Tasmania, Indigenous persons engaged in traditional 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. For details, see the policy document "Recognition of Aboriginal Fishing Activities"

(<https://dpiwta.tas.gov.au/Documents/Policy%20for%20Aboriginal%20tags%20and%20allotting%20an%20UIC.pdf>).

CATCH CHART



Commercial catch of Silver Warehou - note confidential catch not shown

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