

# Silver Warehou (2023)

*Seriolella punctata*



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## STOCK STATUS OVERVIEW

Jurisdiction	Stock	Stock status	Indicators
Commonwealth, New South Wales, Tasmania	Southern and Eastern Australia	Sustainable	Spawning stock biomass, fishing mortality

## STOCK STRUCTURE

A study on the stock structure of Silver Warehou using genetics (mitochondrial DNA), morphology, otolith shape and otolith microchemistry did not indicate the presence of separate stocks east and west of Bass Strait, although there were indications of some stock structuring around Tasmania [Robinson et al. 2008]. This study, together with other information, suggests that Silver Warehou should be considered as a single biological stock.

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 and sporadic catches from New South Wales, Tasmania and historically 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 tonnes (t)) and 2004 (4,435 t). Catches have subsequently declined to around 250–300 t in recent years.

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In New South Wales, commercial fishery data, including catch of Silver Warehou are available from 1985–86, although data to 1997–98 are associated with reporting to the Commonwealth and NSW jurisdictions and in many years the data are classified as confidential. From 1997–98 to 1999–00, between 10 and 20 t of Silver Warehou was reported in New South Wales commercial fisheries. In each year since, the catch of Silver Warehou was less than or equal to 5 t. Annual catches from 1999–00 to 2003–04 were less than 1.5 t per year, and since 2010–11, less than 0.5 t per year [NSW DPI unpublished]. Recreational and Indigenous catches of Warehou species 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. 2022] or reported them into 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 less than 0.3 t, with only 2 kg recorded in 2021–22 [Sharples et al. 2023]. Silver Warehou does not appear to be targeted recreationally in Tasmania [Lyle et al. 2019].

Warehou species are not differentiated in South Australia's commercial Marine Scalefish Fishery (MSF). No commercial catches of Warehou species were reported during the most recent assessment year [Smart et al. 2023]. The most recent recreational fishing survey in South Australia in 2021–22 indicated that the annual catch of Warehou species was zero [Beckmann et al. 2023].

Silver Warehou in Commonwealth fisheries is managed as a Tier 1 stock under the SSSF Harvest Strategy Framework [AFMA 2021a]. While the 2018 Tier 1 stock assessment [Burch et al. 2019] informed the management of the stock for the 2021–22 fishing season, a new assessment was undertaken in 2021 [Bessell-Browne and Day 2021].

The 2018 Tier 1 stock assessment [Burch et al. 2019] estimated that the spawning stock biomass at the start of 2018 was 22% of the unfished spawning stock biomass, which was below the target reference point (TRP) of 48% of the unfished level but above the limit reference point (LRP) of 20% of the unfished level. The South East Resource Assessment Group (SERAG) noted that the spawning stock biomass has been below the TRP since 2009 and declined to near the LRP from 2014 to 2017, before an increase in 2018 [AFMA 2018]. Because previous assessments have shown a retrospective pattern of overly optimistic recent recruitment estimates and increases in stock size, which were then revised downwards in subsequent assessments, SERAG requested that projections be carried out using 2 scenarios of below-average recruitment and assuming stable catches of around 350 t. These scenarios were a 'poor' recruitment scenario (the average of a recent 5-year period of poor recruitment) and a 'very poor' recruitment scenario (the average of the worst 3 of these 5 years). SERAG agreed to use the poor-recruitment scenario to provide recommended biological catch (RBC) advice, which suggested that catches below 600 t should allow the biomass to rebuild [AFMA 2018].

The 2021 Tier 1 stock assessment [Bessell-Browne and Day 2021] estimated spawning stock biomass to be above the LRP of 20% of unfished spawning stock biomass at 27% in 2020 and projected to be at 29% in 2022 (assuming that catches in 2021 were the same as in 2020) [Bessell-Browne and Day 2021]. This resulted in a 3-year average RBC of 581 t. SERAG agreed to a series of constant-catch projections, assuming low recruitment [AFMA 2021b]. It was noted that

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under a 0 t constant catch scenario and assuming low recruitment, the stock would be expected to reach the TRP by 2040. Under a 250 t or 350 t constant-catch scenario, the stock would be expected to increase slowly towards the TRP but not reach it until after 2040, while under the 450 t or the harvest control rule (587 t), biomass was expected to remain static.

The above evidence indicates that the biomass of this stock is unlikely to be depleted and that recruitment is unlikely to be impaired.

Common

wealth landed catch was 234.5 t in the 2021–22 fishing season [Emery et al. 2022]. The model-based discard and State catch estimate for 2020 was 80 t and 0 t, respectively [Bessell-Browne and Day 2021], which when combined (314.5 t) is below the 600 t catch (from the 2018 assessment), which was projected to allow the biomass to gradually increase towards the TRP, with the risk of falling below the LRP being low. Estimated catch (including discards) in 2021–22 (314.5 t) was also within the level of catch (i.e., 250 to 350 t) that would allow a slow rebuild to the TRP [Bessell-Browne and Day 2021].

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

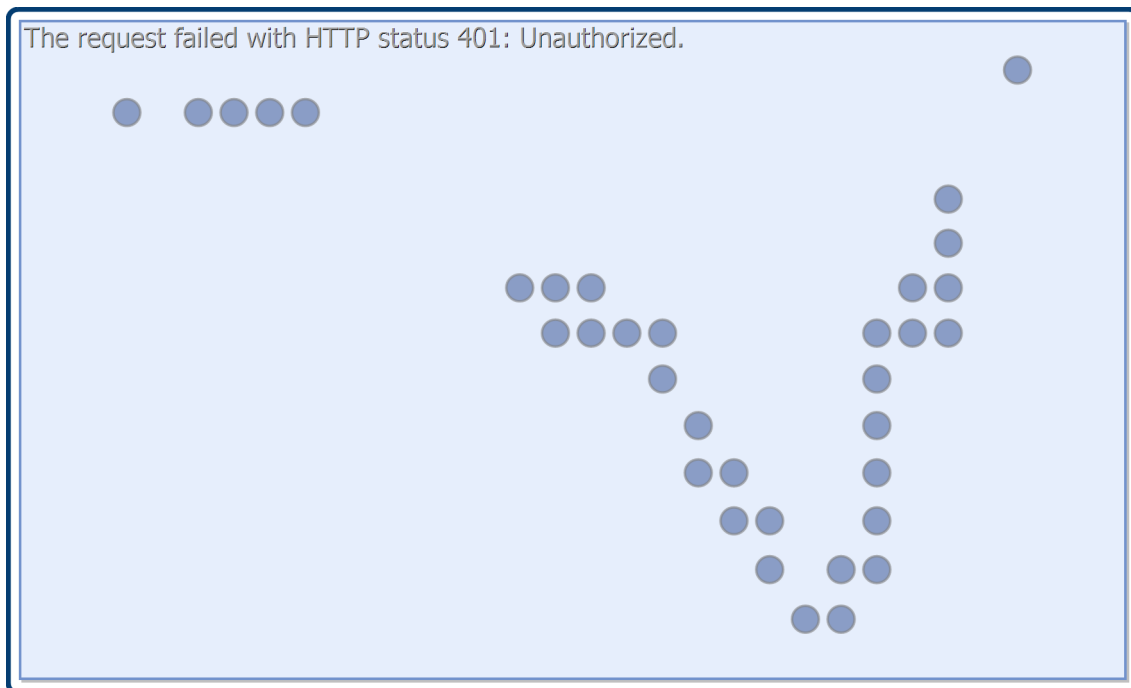
On the basis of the evidence provided above, the Southern and Eastern Australia biological stock is classified as a **sustainable stock**.

## 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**

<b>Fishing methods</b>	<b>Commonwealth</b>	<b>New South Wales</b>	<b>South Australia</b>	<b>Tasmania</b>
<b>Charter</b>				
Hook and Line			✓	
<b>Commercial</b>				
Danish Seine	✓			
Demersal Longline	✓			
Midwater Trawl	✓			
Otter Trawl	✓			
Trawl	✓			
Unspecified				✓
Various		✓		
<b>Recreational</b>				
Hook and Line		✓		

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Management Methods	Commonwealth	New South Wales	Tasmania
<b>Commercial</b>			
Gear restrictions	✓	✓	
Limited entry	✓	✓	✓
Marine park closures		✓	
Quota	✓		
Size limit			✓
Spatial closures	✓	✓	
Total allowable catch	✓		
Vessel restrictions		✓	
<b>Recreational</b>			
Bag and possession limits		✓	✓
Bag limits			✓
Gear restrictions		✓	
Licence		✓	✓
Marine park closures		✓	
Size limit			✓
Spatial closures		✓	

Catch	Commonwealth	New South Wales	South Australia	Tasmania	Victoria
<b>Commercial</b>	217.545 t	0 t		0 t	
<b>Indigenous</b>		Unknown	Unknown	Unknown	Unknown
<b>Recreational</b>		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 2021–22 financial year.

**Commonwealth – Recreational.** The Australian government 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 (Management Methods).**

<https://www.dpi.nsw.gov.au/fishing/aboriginal-fishing>

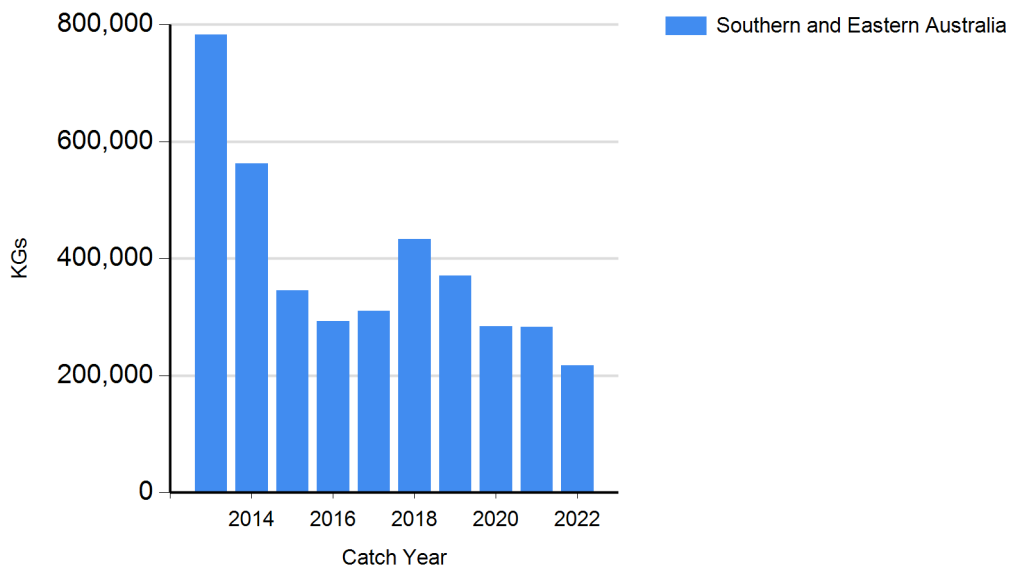
**Tasmania - Commercial (Catch).** Catches reported for the Tasmanian Scalefish Fishery are for the period 1 July to 30 June the following year. The most recent assessment available is for 2021–22.

**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://fishing.tas.gov.au/Documents/Policy%20for%20Aboriginal%20tags%20and%20alloting%20an%20UIC.pdf>).

## CATCH CHART



Commercial catch of Silver Warehou - note confidential catch not shown

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