Pink Ling (2023)

Genypterus blacodes

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STOCK STATUS OVERVIEW

Jurisdiction	Stock	Stock status	Indicators
Commonwealth	Western	Sustainable	Spawning stock biomass, fishing mortality
Commonwealth, New South Wales	Eastern	Sustainable	Spawning stock biomass, fishing mortality

STOCK STRUCTURE

Clear and persistent differences are seen between the eastern and western areas for Pink Ling in catch-rate trends, size and age [Bessell-Browne et al. 2020]. For example, Pink Ling caught in the east are on average smaller and younger than those caught in the west [Thomson et al. 2001]; other differences are seen in catchability [Kailola et al. 1993] and catch-rate trends [Whitten and Punt 2014]. This indicates that there are either two separate stocks or that exchange between eastern and western components of the stock is low and they should be managed as separate stocks. Although no significant differences in genetic structure were identified at five locations around south-eastern Australia (New South Wales, eastern and western Victoria, eastern and western Tasmania) [Ward et al. 2001], the persistent differences in other biological characteristics and catch-rate trends have resulted in Pink Ling being assessed as separate stocks east and west of longitude 147°E since 2013.

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

STOCK STATUS

Eastern Pink Ling is primarily caught by the Commonwealth managed Southern and

Eastern Scalefish and Shark Fishery (SESSF) with small catches from State jurisdictions. Stock status classification reported here is based on stock assessments conducted for the SESSF, which include reported State catches. In the Commonwealth, combined eastern and western catches of Pink Ling increased steadily from the start of the fishery in about 1977, to reach a peak of 2,412 tonnes (t) in 1997. Despite TACs continuing to increase from 1997 to 2001, catches declined steadily to about 1,800 t in 2004. From 2004–05 to 2013–14, Pink Ling catches declined and were limited by the TAC. Since 2013–14, total catch has been stable at around 800–1,000 t.

Eastern Pink Ling in Commonwealth fisheries is managed as a Tier 1 stock under the SESSF Harvest Strategy Framework [AFMA 2021a]. While the 2018 Tier 1 stock assessment [Cordue 2018] informed the management of the stock for the 2021–22 fishing season, a new assessment was undertaken in 2021 [Cordue 2022].

The 2018 Tier 1 stock assessment [Cordue 2018] estimated that the spawning stock biomass at the start of 2018 was 30% of the unfished level. This led to a recommended biological catch (RBC) of 260 t and a long-term yield of 570 t. The South East Resource Assessment Group (SERAG) recommended setting a notional eastern TAC based on stochastic projections from a range of constant-catch scenarios rather than the RBC for the 2021–22 fishing season. Projections of the stock response to various constant-catch scenarios indicated that catches up to 550 t posed little (< 5%) risk to the stock falling below the limit reference point (LRP) of 20% of the unfished spawning stock biomass by 2028 [Cordue 2018]. The stock is expected to rebuild to the target reference point (TRP) of 48% of the unfished spawning stock biomass with at least a 50% probability in a reasonable timeframe (before 2050) for catches up to 500 t per year [Cordue 2018].

The 2021 Tier 1 stock assessment [Cordue 2022] estimated spawning stock biomass in 2021 to be 34% of the unfished level. SERAG noted that estimates of spawning stock biomass were highly dependent on values of natural mortality, with biomass ranging from 22% to 36% of the unfished level under high and low values of natural mortality [AFMA 2021b]. These estimates led to a recommended biological catch for the Eastern stock of 410 t (95% confidence interval 130–630 t) for the 2022–23 fishing season [Cordue 2022]. Projections of stock response to various constant-catch scenarios indicated that for catches up to 500 t, the probability that the stock was below the limit reference point of 20% of unfished spawning stock biomass by 2024 or 2031 was ≤ 1% [Cordue 2022].

The Eastern biological stock is therefore unlikely to be depleted and recruitment is unlikely to be impaired.

Commonwealth catch for Eastern Pink Ling in the SESSF was 375.9 t in the 2021–22 fishing season based on the percentage split east/west from logbook records [Emery et al. 2022]. Discards and state catches have been estimated to be 20.2 t and 54.4 t, respectively, based on the weighted average of the previous four calendar years (2017 to 2020) [Althaus et al. 2021]. Although catch (450.5 t) of Eastern Pink Ling was above the RBC, this is below the level that constant catch scenarios indicated posed little risk to the stock [Cordue, 2018; Cordue 2022]. This level of fishing mortality is unlikely to cause Eastern Pink Ling to become recruitment impaired.

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

Western

Pink Ling is primarily caught by the Commonwealth managed Southern and Eastern Scalefish and Shark Fishery (SESSF) with small catches from State jurisdictions. Stock status classification reported here is based on stock assessments conducted for the SESSF, which include reported State catches. Western Pink Ling in Commonwealth fisheries is managed as a Tier 1 stock under the SESSF Harvest Strategy Framework [AFMA 2021a]. While the 2018 Tier 1 stock assessment [Cordue 2018] informed the management of the stock for the 2021–22 fishing season, a new assessment was undertaken in 2021 [Cordue 2022].

The 2018 Tier 1 stock assessment [Cordue 2018] estimated that the spawning stock biomass at the start of 2018 was 84% of the unfished level. This led to an RBC of 970 t for 2021. Projections of stock response to various constant-catch scenarios indicated that catches up to 1 000 t pose little (<5%) risk to the stock falling below the LRP of 20% of the unfished spawning stock biomass by 2028 [Cordue 2018].

The 2021 Tier 1 stock assessment [Cordue 2022] estimated spawning stock biomass in 2021 to be 91% of the unfished level. SERAG noted that estimates of spawning stock biomass were highly dependent on values of natural mortality, with biomass ranging from 71% to 95% of the unfished level under high and low values of natural mortality [AFMA 2021b]. These estimates led to an RBC for the Western stock of 1,300 t (95% confidence interval 860–1,800 t) for the 2022–23 fishing season [Cordue 2022].

The Western biological stock is therefore unlikely to be depleted and recruitment is unlikely to be impaired.

Commonwealth catch for Western Pink Ling in the SESSF was 441.2 t in the 2021–22 fishing season based on the percentage split east/west from logbook records [Emery et al. 2022]. Discards and state catches have been estimated to be 6.4 t and 0.4 t respectively based on the weighted average of the previous four calendar years (2017–2020) [Althaus et al. 2021]. When estimated discards and State catches are combined with Commonwealth logbook catch for 2021–22, the total (448 t) is below the RBC [Cordue, 2018, 2022]. This level of fishing mortality is unlikely to cause Western Pink Ling to become recruitment impaired.

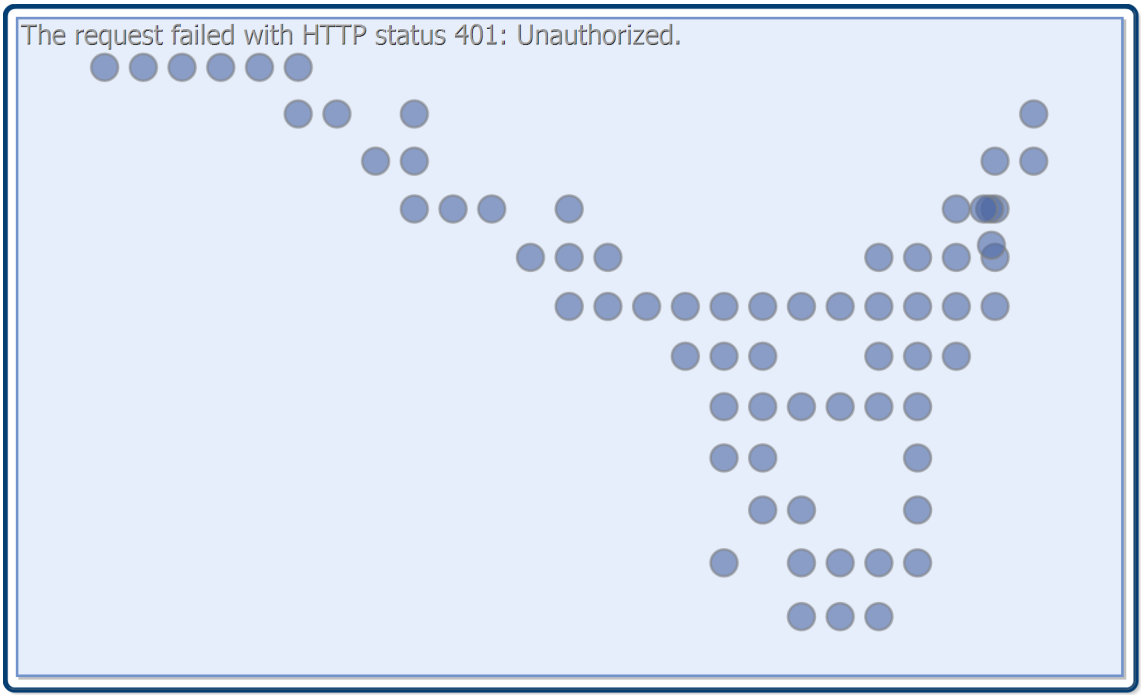
On the basis of the evidence provided above, the Western biological stock is classified as a **sustainable stock**.

BIOLOGY

Pink Ling biology [Morison et al. 1999; Smith and Wayte 2004]

Species	Longevity / Maximum Size	Maturity (50 per cent)
Pink Ling	25–30 years, 1,600–1,750 mm TL	7–12 years, 700–1,000 mm TL

DISTRIBUTION



Distribution of reported commercial catch of Pink Ling

TABLES

Fishing methods		
	Commonwealth	New South Wales
Charter		
Hook and Line		✓
Commercial		
Danish Seine	✓	
Demersal Gillnet	✓	
Demersal Longline	✓	✓
Dropline		✓
Otter Trawl	✓	
Various		✓
Recreational		
Hook and Line		✓

Management Methods		
	Commonwealth	New South Wales
Commercial		
Gear restrictions	✓	✓
Limited entry	✓	✓
Quota	✓	
Spatial closures	✓	✓
Total allowable catch	✓	
Trip limits	✓	
Recreational		
Bag limits		✓
Licence		✓
Spatial closures		✓

Catch		
	Commonwealth	New South Wales
Charter		Unknown
Commercial	681.703 t	62.6916 t
Indigenous		Unknown
Recreational		Unknown

Commonwealth – Commercial (Management Methods/Catch). Trip limits apply to the Eastern stock. Data provided for the Commonwealth align with the Commonwealth Southern and Eastern Scalefish and Shark Fishery for the 2021–22 financial year.

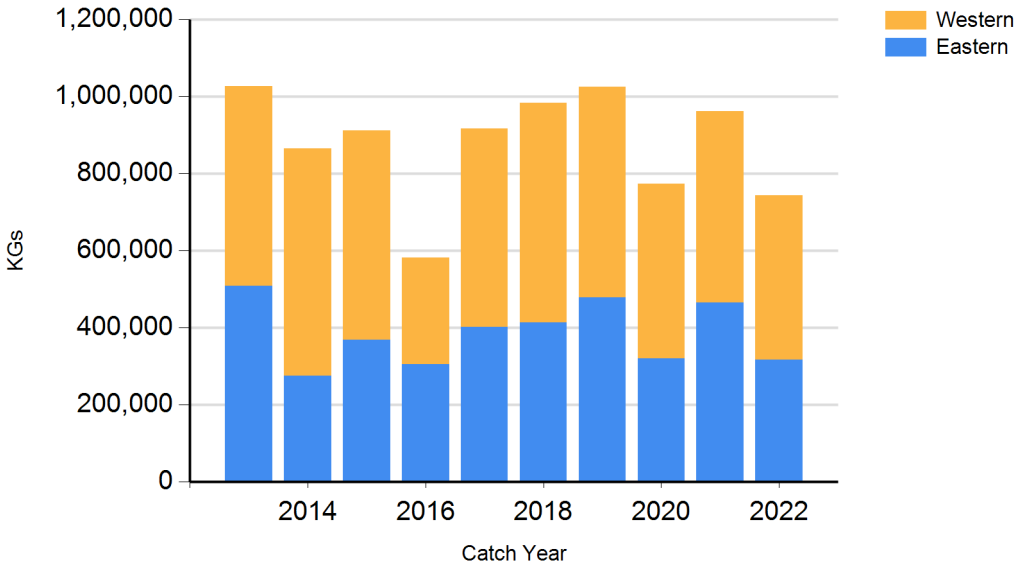
Commonwealth – Recreational. The Australian government does not manage recreational fishing in Commonwealth waters. Recreational fishing in Commonwealth waters is managed by the state or territory immediately adjacent to those waters, under its management regulations.

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

New South Wales – Recreational (Catch). Murphy et al. [2022].

CATCH CHART



Commercial catch of Pink Ling - note confidential catch not shown

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