

Pink Ling (2016)

Genypterus blacodes



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STOCK STATUS OVERVIEW

Jurisdiction	Stock	Fisheries	Stock status	Indicators
Commonwealth	Western	SESSF (CTS), SESSF (GHTS)	Sustainable	Spawning stock biomass, fishing mortality
Commonwealth, New South Wales	Eastern	OTLF, SESSF (CTS), SESSF (GHTS)	Sustainable	Spawning stock 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), OTLF Ocean Trap and Line (NSW)

STOCK STRUCTURE

Clear and persistent differences in size and age composition and differences in trends in catch rates indicate the existence of different stocks east and west of South Cape, Tasmania (147° east). However, no genetic differences have been identified between these areas[1]. The stocks were previously managed as a single stock, but in 2013 it was agreed that they would be managed separately.

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

STOCK STATUS

Eastern Most of the Eastern Pink Ling catch is taken in the Commonwealth trawl and autoline fisheries within the Southern and Eastern Scalefish and Shark Fishery. Catches of Eastern Pink Ling in this fishery have declined steadily from about 1000 t per year in 2000, to less than 300 t in the 2015–16 fishing season. The New South Wales Ocean Trap and Line Fishery, in the same region, also takes Pink Ling; the New South Wales annual catch increased from between 9 and 20 t in the early-2000s, to between 40 and 59 t over the past 5 years. In 2015, total New South Wales catch of Pink Ling was 51 t.

The most recent stock assessment for the Eastern stock of Pink Ling was

undertaken in 2015[2] and estimated that, in 2015, the spawning stock biomass would be 30 per cent of unfished spawning stock biomass. The stock is not considered to be recruitment overfished.

Constant catch scenarios run as part of the assessment suggested that there was little risk to the stock over the next few years of removals up to around 400 t per year, which should allow the Eastern stock to rebuild to the management target within two mean generation times. The Australian Fisheries Management Authority implemented a combined Commonwealth Pink Ling total allowable catch (TAC) of 980 t for the 2015–16 fishing season, administering this as separate TACs of 337 t for the Eastern stock and 643 t for the Western stock. Logbook-reported catch for the 2015–16 fishing season was 280 t for the Eastern stock, although there is thought to be some under-reporting of Pink Ling catches in logbooks. This level of fishing pressure is unlikely to cause the Eastern stock to become recruitment overfished.

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

Western The most recent stock assessment for the Western stock of Pink Ling was undertaken in 2015[2] and estimated that, in 2015, the Western spawning stock biomass would be 72 per cent of unfished spawning stock biomass. The stock is not considered to be recruitment overfished.

The 2015 stock assessment produced a recommended biological catch for the Western stock of 990 tonnes (t) for the 2016–17 fishing season. The previous stock assessment in 2013 produced a recommended biological catch of 807 t for the 2015–16 fishing season. Western catches have been below these levels in recent fishing seasons. This level of fishing pressure is unlikely to cause the Western stock to become recruitment overfished.

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

BIOLOGY

Pink Ling biology[3,4]

Species	Longevity / Maximum Size	Maturity (50 per cent)
Pink Ling	25–30 years; 1600–1750 mm <u>TL</u>	7–12 years; 700–1000 mm <u>TL</u>

DISTRIBUTION



Distribution of reported commercial catch of Pink Ling

TABLES

Commercial Catch Methods	Commonwealth	New South Wales
Danish Seine	✓	
Demersal Gillnet	✓	
Demersal Longline	✓	
Dropline	✓	✓
Otter Trawl	✓	
Setline		✓

Fishing methods	Commonwealth	New South Wales
Commercial		
Danish Seine	✓	
Demersal Gillnet	✓	
Dropline		✓
Otter Trawl	✓	
Setline		✓
Recreational		
Hand Line, Hand Reel or Powered Reels	✓	✓

Management Methods		
	Commonwealth	New South Wales
Commercial		
Limited entry	✓	✓
Spatial closures	✓	✓
Total allowable catch	✓	
Trip limits	✓	
Indigenous		
Spatial closures		✓
Recreational		
Licence		✓
Spatial closures		✓
Active Vessels		
	Commonwealth	New South Wales
	50 License in SESSF (GABTS), 12 License in SESSF (GHTS),	15 License in OTLF,

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(NSW)

Catch		
	Commonwealth	New South Wales
Commercial	525.38t in SESSF (CTS), 0.04794t in SESSF (GHTS),	51.0328t in OTLF,
Indigenous	Unknown	Unknown
Recreational	Unknown	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), OTLF Ocean Trap and Line (NSW),

a Commonwealth – Commercial (management methods) Trip limits apply to the Eastern stock.

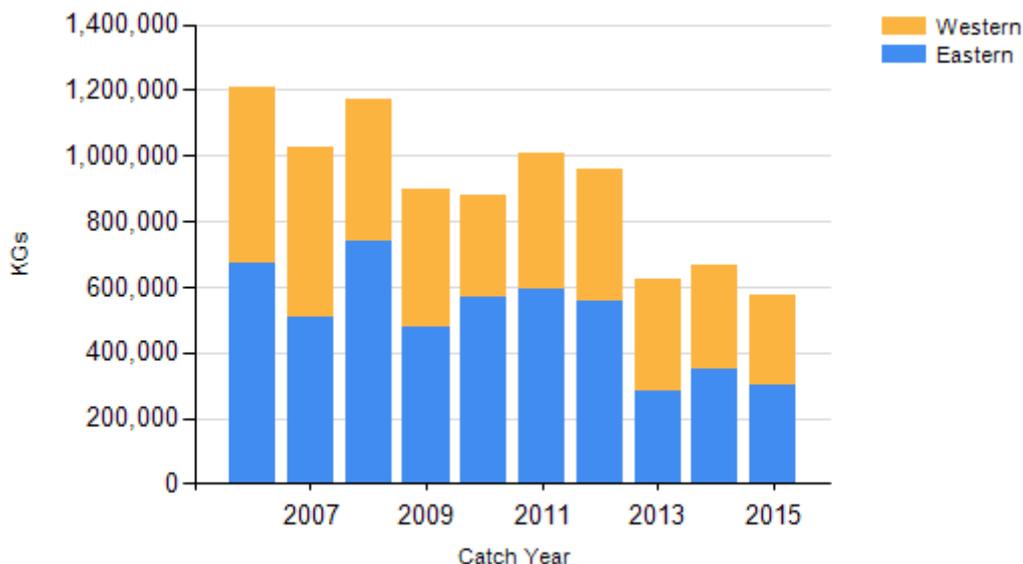
b Commonwealth – Recreational The Australian Government does not manage recreational fishing in Commonwealth waters. Recreational fishing in Commonwealth waters is managed by the state or territory immediately adjacent to those waters, under its management regulations.

c Commonwealth – Indigenous The Australian Government does not manage non-commercial Indigenous fishing in Commonwealth waters, with the exception of the Torres Strait.

In general, non-commercial Indigenous fishing in Commonwealth waters is managed by the state or territory immediately adjacent to those waters.

d New South Wales – Indigenous (management methods) 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.
e New South Wales – Indigenous (management methods) Aboriginal cultural fishing authority - the authority that Indigenous persons can apply to take catches outside the recreational limits under the Fisheries Management Act 1994 (NSW), Section 37 (1)(c1), Aboriginal cultural fishing authority.

CATCH CHART



Commercial catch of Pink Ling - note confidential catch not shown

EFFECTS OF FISHING ON THE MARINE ENVIRONMENT

- There is bycatch in the fish trawl sector. In 2006, mandatory requirements for otter trawls to use 90 mm square-mesh codend panels were introduced in an effort to reduce the bycatch of small species and juvenile fish[5].
- Interactions also occur with animals protected under the *Environment Protection and Biodiversity Conservation Act 1999*, including marine mammals (dolphins, seals and sea lions), seabirds, some shark species and seahorses and pipefish (syngnathids). These interactions are reported quarterly by the Australian Fisheries Management Authority (AFMA)[6] and on-board observer programs are used to validate the reporting in commercial logbooks.
- In 2007, the South East Trawl Fishing Industry Association released an industry code of practice that aims to minimise interactions with fur seals, as well as addressing the environmental impacts of the fishery more generally[7]. Operators have developed other mitigation protocols that have further reduced seal mortalities, including using breakaway ties that keep the net closed until it is below depths that seals regularly inhabit, adopting techniques to close the trawl opening during recovery to minimise opportunities for seals to enter the net, switching off gantry lights that are not required during night trawling to avoid attracting bait species and seals, and dumping offal only when the boat is not engaged in deploying or hauling gear.
- The AFMA mandated individual vessel seabird management plans[8]. The seabird action plans are used in the Southern and Eastern Scalefish and Shark Fishery (Commonwealth Trawl Sector) (SESSF [CTS]) to mitigate the impacts of trawling on seabirds. From 1 May 2017, all vessels in the SESSF (CTS) and Southern and Eastern Scalefish and Shark Fishery (Great Australian Bight Trawl Sector) (SESSF [GABTS]) fisheries must use one of the following mitigation devices: sprayers; bird bafflers; or

pinkies with zero discharge fish waste[9].

- The effects of trawl fishing on the marine environment are assessed through an environmental risk assessment and risk management framework and mitigated through spatial closures, and the implementation of bycatch and discard workplans[10,11] in the SESSF (CTS) and SESSF (GABTS) fisheries.

ENVIRONMENTAL EFFECTS on Pink Ling

- Pink Ling is a deepwater species living in close association with the seabed at depths of 200–900 m[12]. The species is relatively non-migratory and does not appear to move in response to changes in ocean currents or water temperature. Stock assessments indicate that annual recruitment is usually somewhat variable, but occasional years of higher recruitment may be partly environmentally-driven[2].

References	
1	Ward, RD, Appleyard, SA, Daley, RK and Reilly, A 2001, Population structure of Pink Ling (<i>Genypterus blacodes</i>) from south-eastern Australian waters, inferred from allozyme and microsatellite analyses, <i>Marine and Freshwater Research</i> , 52: 965–973.
2	Cordue, PL 2015, <i>The 2015 stock assessment update for eastern and western Pink Ling</i> , Innovative Solutions Ltd Client Report for the Australian Fisheries Management Authority, AFMA, Canberra.
3	Morison, AK, Green, CP and Smith, DC 1999, <i>Estimates of mortality of Ling based on historical length and otolith collections from the eastern sector of the SEF</i> , ARF Project 95/95-10.
4	Smith, ADM and Wayte, SW (ed.s) 2004, <i>The South East Fishery 2003</i> , Fishery assessment report compiled by the Southern and Eastern Scalefish and Shark Fishery Assessment Group, Australian Fisheries Management Authority, Canberra.
5	Australian Fisheries Management Authority 2005, <i>SESSF Direction no. 05: gear requirements for the Commonwealth Trawl Sector</i> , AFMA, Canberra.
6	Australian Fisheries Management Authority 2014, <i>Protected species interaction reports</i> , AFMA, Canberra.
7	South East Trawl Fishing Industry Association 2007, <i>Industry code of practice to minimise interactions with seals</i> , South-east Trawl Fishing Industry Association, Shearwater.
8	Australian Fisheries Management Authority, <i>Seabirds</i> , AFMA, Canberra.
9	Australian Fisheries Management Authority 2016, <i>AFMA moves to strengthen seabird safety</i> , AFMA media release 15 July 2016.
10	Australian Fisheries Management Authority 2014, <i>Commonwealth Trawl Sector (Otter Board Trawl and Danish Seine) bycatch and discarding workplan 2014–2016</i> , AFMA, Canberra.
11	Australian Fisheries Management Authority 2014, <i>Great Australian Bight Trawl Sector bycatch and discarding workplan 2014–2016</i> , AFMA, Canberra
12	Penney AJ 2012, <i>Depth characterisation of southeast Australian fishing zones and exploration of factors relevant to estimating depth-area based habitat proxies for biomass of Pink Ling (Genypterus blacodes)</i> , ABARES paper to the SESSF SlopeRAG meeting, 7–9 November 2012, Hobart.