

# Bigeye Ocean Perch (2023)

*Helicolenus barathri*



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## STOCK STATUS OVERVIEW

Jurisdiction	Stock	Stock status	Indicators
Commonwealth, New South Wales, South Australia	South East Australia	Sustainable	Catch, CPUE

## STOCK STRUCTURE

Historically, two species of Ocean Perch were managed in the Southern and Eastern Scalefish and Shark Fishery (SESSF): Reef Ocean Perch (*Helicolenus percoides*), found at depths 80–3,500 m and Bigeye Ocean Perch (*Helicolenus barathri*), found at depths 250–800 m [Rowling et al 2010].

Based on the depth of capture and logbook records, most of the Ocean Perch landed in the SESSF are considered to have been Bigeye Ocean Perch, with most Reef Ocean Perch discarded because of their smaller size [Rowling et al 2010; Morison et al. 2013]. Since 2020, only the Bigeye Ocean Perch has been assessed in the SESSF, however a basket TAC is set based on analyses of Bigeye Ocean Perch, which covers catches of both species [AFMA 2020].

Bigeye Ocean Perch stock structure is uncertain. Early genetic studies suggest separate stocks of Bigeye Ocean Perch occur within South East Australia, however, the results were not definitive [Paxton and Colgon 1993; Park 1995].

Here, assessment of stock status is presented at the biological stock level for Bigeye Ocean Perch—South East Australia.

## STOCK STATUS

**South East  
Australia**

Bigeye Ocean Perch is primarily caught by the Commonwealth managed Southern and Eastern Scalefish and Shark Fishery (SESSF) with small catches from New South Wales. The stock status classification reported here is based on analyses conducted for the SESSF, which includes state catches.

In the Commonwealth, Bigeye Ocean Perch has been a significant part of trawl catches since the continental-slope trawl fishery developed in the late 1960s [Morison et al. 2013]. Total landed catch of Ocean Perch (both Bigeye Ocean Perch and Reef Ocean Perch) since the 1970s has generally been between 200 tonnes (t) and 400 t, peaking at 475 t in 1997.

Since 2013, annual landings of Bigeye Ocean Perch by New South Wales State commercial fishers have averaged about 14 t per year (range: 8–21 t), with 10.5 t landed in 2022 [NSW DPI unpublished data; Smoothey and Johnson 2023]. While the total recreational harvest is unknown it is considered to be small [Murphy et al. 2022; Hughes et al. 2023] compared to commercial landings. There has been no catch of Bigeye Ocean Perch recorded in South Australian commercial fisheries since at least the 1980s.

In the Commonwealth, Bigeye Ocean Perch is managed under the SESSF Harvest Strategy Framework [AFMA 2021]. The 2020 tier 4 analysis for Bigeye Ocean Perch [Sporcic 2020] informed the management of the stock for the 2021–22 fishing season.

The most recent tier 4 analysis found that the recent average standardised catch per unit effort (CPUE) had increased since the 2017 tier 4 analysis and was above the target reference point and the limit reference point [Sporcic 2020]. Applying the tier 4 harvest control rule resulted in a recommended biological catch (RBC) of 421 t for the 2021–22 fishing season [Sporcic 2020]. The above evidence indicates that the biomass of this stock is unlikely to be depleted and that recruitment is unlikely to be impaired.

Commonwealth-landed catch of Ocean Perch (both species) for the 2021–22 fishing season was 178.1 t based on catch disposal records. Data on discards and state catches are not yet available for 2021–22. Weighted averages of the previous 4 calendar years (2017 to 2020) were calculated and used to estimate discards and state catches of 104.9 t and 4.1 t, respectively, for Reef Ocean Perch, and 42.3 t and 10.6 t, respectively, for Bigeye Ocean Perch [Althaus et al. 2021]. For the 2021–22 fishing season, total catch and discards for Ocean Perch were estimated to be 340 t [Emery et al. 2022], which is below the RBC of 421 t. 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 South East Australia biological stock for Bigeye Ocean Perch is classified as a **sustainable stock**.

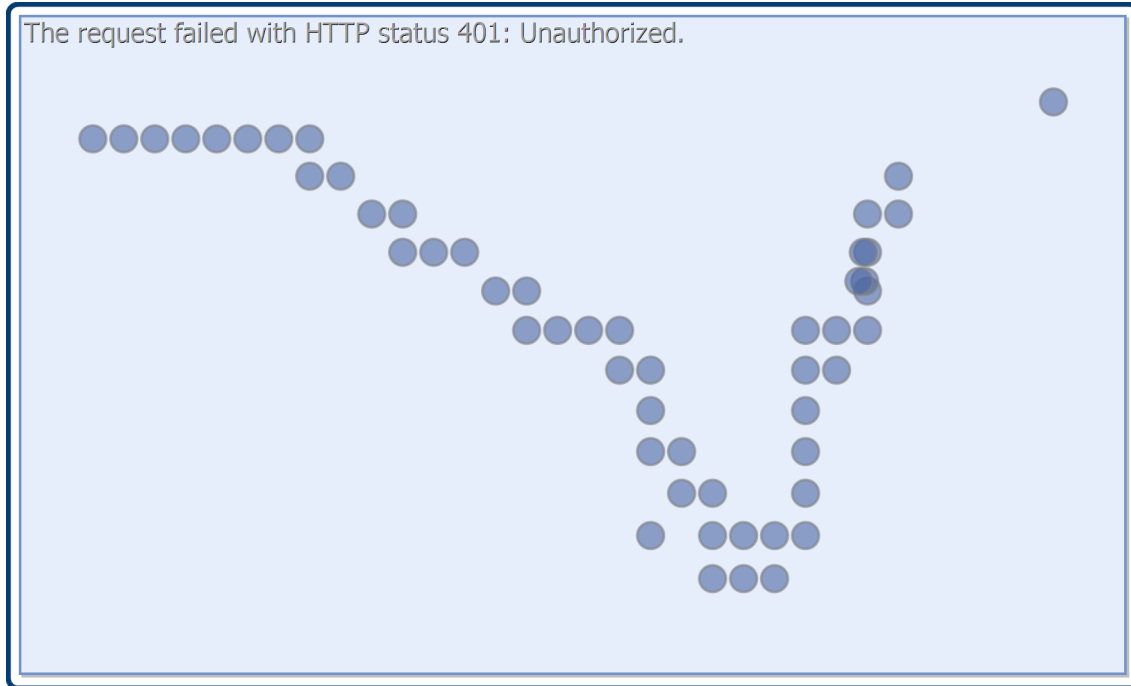
**BIOLOGY**

**Bigeye Ocean Perch** biology [Knuckey and Curtain 2001; Johnson and Motomura 2008; Rowling et al. 2010; Crec'hriou et al. 2015; Bray 2019; AFMA 2023]

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Species	Longevity / Maximum Size	Maturity (50 per cent)
Bigeye Ocean Perch	47–60 years, 440 mm FL	Females 5 years, males 5–7 years

**DISTRIBUTION**



Distribution of reported commercial catch of Bigeye Ocean Perch

**TABLES**

Fishing methods	Commonwealth	New South Wales	South Australia
<b>Charter</b>			
Handline		✓	
<b>Commercial</b>			
Danish Seine	✓		
Demersal Longline	✓	✓	
Dropline	✓	✓	
Handline (mechanised)	✓		
Otter Trawl	✓		
Unspecified			✓
Various		✓	

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Recreational			
Handline		✓	

Management Methods			
	Commonwealth	New South Wales	South Australia
<b>Charter</b>			
Gear restrictions		✓	
Licence		✓	
Spatial closures		✓	
<b>Commercial</b>			
Gear restrictions	✓	✓	✓
Limited entry	✓	✓	✓
Marine park closures		✓	
Quota	✓		
Spatial closures	✓	✓	✓
Total allowable catch	✓		
<b>Recreational</b>			
Bag limits		✓	
Gear restrictions		✓	
Licence		✓	
Spatial closures		✓	

Catch			
	Commonwealth	New South Wales	South Australia
<b>Commercial</b>	156.526 t	10.4858 t	0 t
<b>Indigenous</b>		Unknown	Unknown
<b>Recreational</b>		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 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.

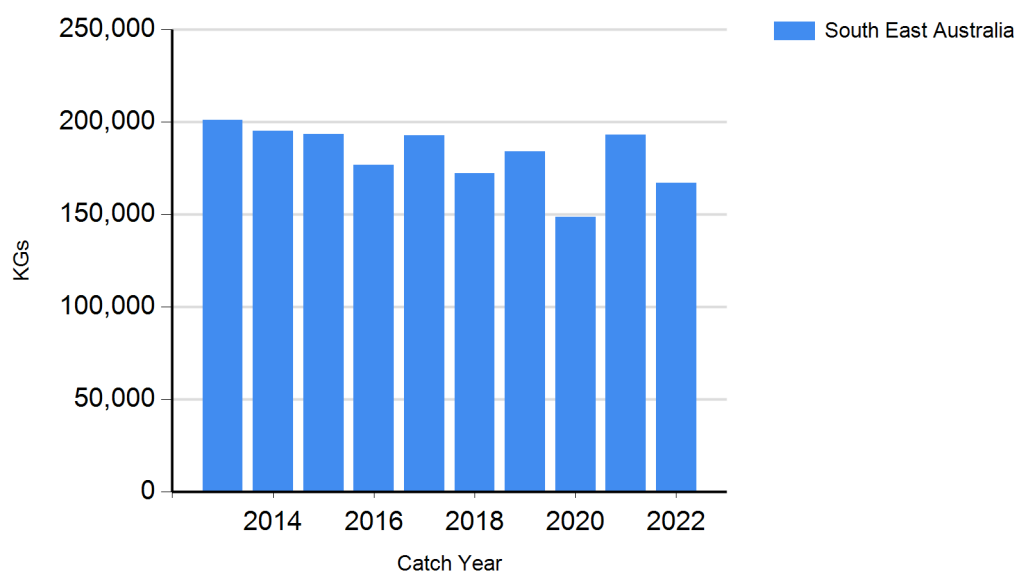
**Commonwealth – Indigenous.** The Australian government does not manage non-commercial Indigenous fishing in Commonwealth waters, with the exception of Torres Strait. In general, non-commercial Indigenous fishing in Commonwealth waters is managed by the state or territory immediately adjacent to those waters.

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

**New South Wales – Indigenous (management methods).**

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

## CATCH CHART



Commercial catch of Bigeye Ocean Perch - note confidential catch not shown

References	
AFMA 2023	AFMA 2023, Ocean Perch, Australian Fisheries Management Authority, <a href="https://www.afma.gov.au/species/ocean-perch">https://www.afma.gov.au/species/ocean-perch</a> .
Park 1995	Park, T 1995, Ocean Perches 1994, Stock Assessment Report, South East Fishery Assessment Group, Australian Fisheries Management Authority, Canberra.
Paxton and Colgon 1993	Paxton, JR and Colgon, DJ 1993, Biochemical genetics and Stock assessment of Common Gemfish and Ocean Perch, Final Report, FRDC project 91/34, Australian Museum.
Murphy et al. 2022	Murphy, JJ, Ochwada-Doyle, FA, West, LD, Stark, KE and Hughes, JM, Taylor, MD 2022 Survey of recreational fishing in NSW, 2019/20. NSW DPI - Fisheries Final Report Series No. 161.

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AFMA 2020	AFMA 2020, Southern and Eastern Scalefish and Shark Fishery Resource Assessment Group (SESSFRAG) data meeting, minutes, 25–26 August 2020, Australian Fisheries Management Authority, Canberra.
AFMA 2021	AFMA 2021, Harvest strategy framework for the Southern and Eastern Scalefish and Shark Fishery 2009 (amended 2021), Australian Fisheries Management Authority, Canberra.
Althaus et al. 2021	Althaus, F, Thomson, R and Sutton, C 2021, Southern and Eastern Scalefish and Shark Fishery catches and discards for TAC purposes using data until 2020, CSIRO Oceans and Atmosphere, Hobart.
Sporcic 2020	Sporcic, M 2020, Draft tier 4 assessments for selected SESSF species (data to 2019), CSIRO Oceans and Atmosphere, Hobart.
Crec'hriou et al. 2015	Crec'hriou, R, Zintzen, V, Moore, L and Roberts, CD 2015, Length-weight relationships of 33 fish species from New Zealand, <i>Journal of Applied Ichthyology</i> , 31: 558–561.
Johnson and Motomura 2008	Johnson, JW and Motomura, H 2008, Family Sebastidae, in Gomon, MF, Bray, DJ and Kuitert, RH (eds), <i>Fishes of Australia's Southern Coast</i> , Sydney, pp. 496–498.
Knuckey and Curtain 2001	Knuckey, IA and Curtain, JM 2001, Estimation of the current age structure of mirror dory and ocean perch, Final report to the Australian Fisheries Management Authority, ARF Project R99/0377, Queenscliff, Marine and Freshwater Resources Institute, Victoria.
Morison et al. 2013	Morison, AK, Knuckey, I, Simpfendorfer, CA and Buckworth, RC 2013, Southern and Eastern Scalefish and Shark Fishery (SESSF): draft 2012 stock assessment summaries for species assessed by GABRAG, ShelfRAG and Slope/DeepRAG, Canberra.
Rowling et al 2010	Rowling, K, A, Hegarty, A and Ives, M (eds) 2010, Ocean Perch ( <i>Helicolenus</i> spp.), in <i>Status of Fisheries Resources in NSW 2008/09</i> , Industry and Investment NSW, Cronulla, pp. 217–220.
Emery et al. 2022	Emery, T, Wright, D, Davis, K, Keller, K, Woodhams, J and Curtotti, R 2022, Commonwealth Trawl and Scalefish Hook sectors, in Patterson, H, Bromhead, D, Galeano, D, Larcombe, J, Timmiss, T, Woodhams, J and Curtotti, R (eds), <i>Fishery status reports 2022</i> , Australian Bureau of Agricultural and Resource Economics and Sciences, Canberra.
Hughes et al. 2023	Hughes, JM, Murphy, JJ, Ochwada-Doyle, FA, and Taylor, MD 2023, NSW Charter Fishery Monitoring 2019/20, NSW DPI - Fisheries Final Report Series No. 162.
Smoothey and Johnson 2023	Smoothey, AF and Johnson, DD 2023, NSW Stock Status Summary 2022/23 – Bigeye Ocean Perch ( <i>Helicolenus barathri</i> ), NSW, Department of Primary Industries, Fisheries, 18 pp.
Bray, 2019	Bray, DJ 2019, <i>Helicolenus barathri</i> in <i>Fishes of Australia</i> , <a href="https://fishesofaustralia.net.au/home/species/3218">https://fishesofaustralia.net.au/home/species/3218</a> .