

Pale Octopus (2023)

Octopus pallidus



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STOCK STATUS OVERVIEW

Jurisdiction	Stock	Stock status	Indicators
New South Wales	New South Wales	Negligible	
Victoria	Victoria	Undefined	Catch
Tasmania	Tasmania	Depleting	Catch, effort, CPUE, potlift surveys
South Australia	South Australia	Undefined	

STOCK STRUCTURE

Pale Octopus is distributed from the Great Australian Bight around Tasmania to southern New South Wales. There is evidence to suggest that Pale Octopus shows complex biological stock structure, with a number of discrete subpopulations in Bass Strait (less than 100 km apart) due to limited dispersal and isolation by distance [Doubleday et al. 2008; Higgins et al. 2013]. However, further information is required to confirm the overall stock structure across southern Australia. Here, assessments of stock status are presented at the jurisdictional level—New South Wales, Victoria, Tasmania and South Australia.

STOCK STATUS

New South Wales Stock status for the New South Wales stock is reported as Negligible due to historically low catches in this jurisdiction and the stock has generally not been subject to targeted fishing [Hall 2018, 2020]. The New South Wales commercial catch during 2017–18 to 2021–22 averaged only 4 t per year, and Pale Octopus

is not a major component of recreational landings. At these negligible catch levels, fishing is unlikely to be having a negative impact on the stock.

South Australia

South Australia's commercial catch of Pale Octopus over the past 23 years has averaged 11.4 t per year, and the species is not a major component of recreational landings. There is no published assessment of this species, and there are no data available to estimate biomass or exploitation rates. In addition, there is no knowledge on recruitment or harvestable biomass in South Australia, and there are no defined target or limit reference levels. These data and knowledge gaps prevent assessment of current stock size or fishing pressure. Consequently, there is insufficient information available to confidently classify the status of this stock.

On the basis of the evidence provided above, the South Australia Fishery management unit for this species is classified as an **undefined stock**.

Tasmania

In Tasmania, most fishing of Pale Octopus takes place on stocks located off the Northern coast and around King and Flinders Island. The stock status of Pale Octopus is assessed using data on commercial catch and catch per unit effort (CPUE; i.e. octopus per pot-lift). A 50-pot sampling program has been conducted in the fishery since November 2004, whereby fishers are required to collect data on the number and sex of all octopuses caught in 50 randomly selected pots from a single line per fishing day, resulting in data from approximately 4,000 pot lifts per fishing season.

Catch of Pale Octopus in the Tasmanian Octopus Fishery (TOF) has fluctuated around 60–100 t since 2005–06, reaching an initial peak of approximately 126 t in 2012–13. Catches of Pale Octopus were reduced to < 100 t again in the following seasons before reaching a new peak of approximately 154 t in the 2020–21 season. In 2021–22, catch was at 109 t, with catch now having exceeded 100t for four consecutive years. Fishing effort has fluctuated around 300,000 pot-lifts since 2006–07 before reaching a historic high of 448,000 pot-lifts in 2012–13 and then declining again to comparable levels fluctuating around 300,000 pot lifts over the last five fishing seasons [Fraser et al. 2022].

Standardised CPUE in the TOF, calculated using a general linear model based on total commercial catch and data from the 50-pot sampling program, fluctuated between roughly 50 and 90% compared to the reference year (2004–05) from 2011–12 to 2019–20. In the last two years standardised CPUE has risen significantly and now exceeds the reference year [Fraser et al. 2022]. In stock assessments up until 2018–19, these fishery-wide trends in catch, effort and CPUE were used as primary indicators of stock status [Hill et al. 2020]. However, the recent redistribution of fishing effort and catch to areas further offshore initiated more in-depth analyses of local trends in catch, effort and CPUE in assessments carried out since 2019–20 [Krueck et al. 2021]. The results highlighted that some key traditionally fished areas are still productive, but that declining trends in CPUE are widespread and potentially concerning. CMSY analyses were conducted for a spatially consistent time series of catch data that excluded more recently exploited areas east of King Island. This indicated that traditionally fished areas east and west of Flinders Island might be depleted below 50% of BMSY however the stock is not yet considered to be recruitment impaired.

Broadscale trends in catch and CPUE do not indicate stock depletion. However, the ecology of Pale Octopus and the species' interaction with fishing gear means

that this is a high-risk fishery. There is evidence of regional biomass depletion in some traditionally fished areas, which suggests that previous levels of fishing pressure in these regions may have been unsustainable. Catches across the fishery have been high for the past four seasons, with notably higher catches and effort in a relatively small geographic area. This level of concentrated effort has the potential to be applied in the future, which could cause the fishery to become depleted. On the basis of this evidence, the Pale Octopus stock in northern Tasmania is classified as a **depleting stock**.

Victoria

A new, standalone commercial Octopus Fishery commenced in Victoria in August 2020. The fishery predominantly harvests Pale Octopus in Eastern Victoria using unbaited pots. Octopus fishing in central and western Victoria is less established and is managed through exploratory, temporary permits.

Pale Octopus have historically been caught by a variety of gears but was not differentiated from other species of octopus in catch and effort reporting.

Targeted octopus fishing with octopus pots took place from 1998–2003 and it is likely that some landings prior to this time were caught in pots but the gear was not accurately reported. Small amounts of octopus (less than 2 t per year) were subsequently caught using traps up until 2015 when landings began to increase rapidly in eastern Victoria, reaching 113.5 t in 2021–22 [Bell et al. 2023].

Due to a lack of historic species specific reporting, the fact Pale Octopus represent an incidental byproduct of many fisheries and appear to have been discarded at times, and the relatively brief history of targeted fishing effort, there is considerable uncertainty about the current stock status of Victorian Pale Octopus. While targeted octopus catch rates remain stable, the fishery is expanding spatially so it is difficult to determine the extent to which this represents serial depletion and/or responsible fishing of the resource by spreading effort. In addition, the landings of other Victorian and Commonwealth fisheries are increasing as demand for the product increases. The above uncertainties make it difficult to determine whether current fishing practices could lead to recruitment impairment, though it appears unlikely that has already occurred.

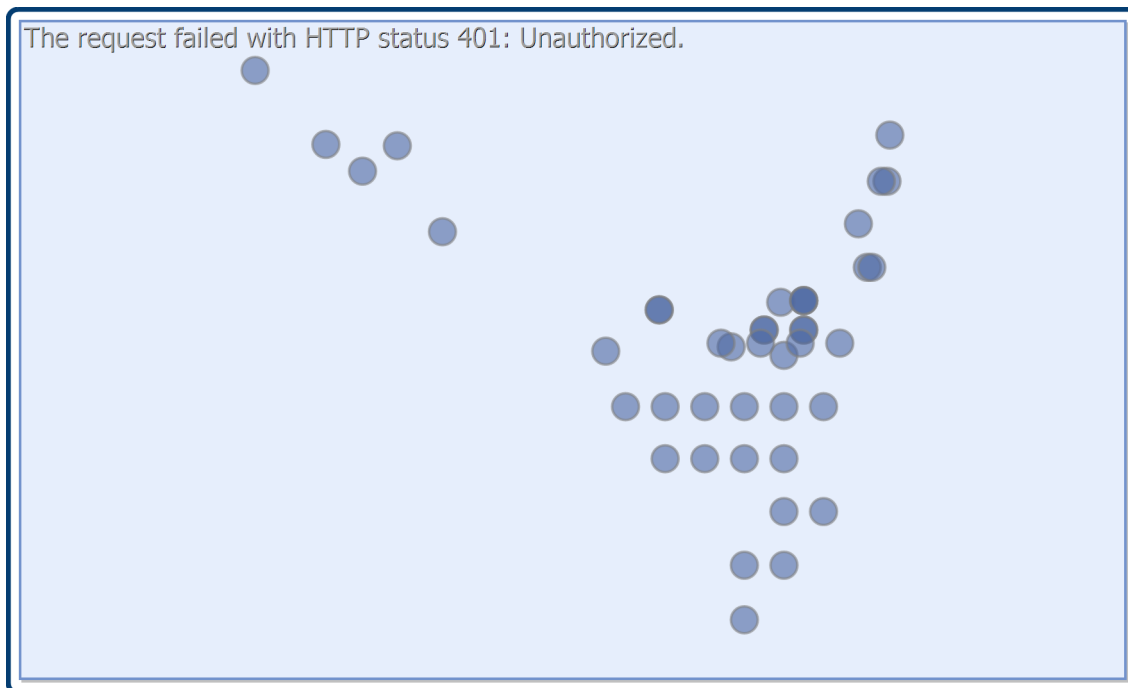
On the basis of the evidence provided above, Pale Octopus in Victoria is classified as an **undefined stock**.

BIOLOGY

Pale Octopus biology [Leporati et al. 2007; Leporati et al 2008a, 2008b].

Species	Longevity / Maximum Size	Maturity (50 per cent)
Pale Octopus	1.5 years, 1200 g	Females 473 g, Males < 250 g

DISTRIBUTION



Distribution of reported commercial catch of Pale Octopus.

TABLES

Fishing methods	New South Wales	South Australia	Tasmania	Victoria
Commercial				
Dredges				✓
Fish Trap	✓			
Net				✓
Otter Trawl	✓			
Pots and Traps			✓	
Traps and Pots				✓
Unspecified		✓		✓
Various	✓			
Recreational				
Coastal, Estuary and River Set Nets			✓	
Diving				✓
Hand collection			✓	

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Hand held- Implements				✓
Rock Lobster And Crayfish Traps And Pots			✓	
Spearfishing			✓	

Management Methods		
	Tasmania	Victoria
Commercial		
Effort limits		✓
Gear restrictions	✓	✓
Licence		✓
Limited entry	✓	✓
Spatial closures		✓
Recreational		
Bag and possession limits	✓	
Bag limits	✓	✓
Gear restrictions		✓
Licence		✓
Spatial closures		✓

Catch				
	New South Wales	South Australia	Tasmania	Victoria
Commercial	5.4852 t	0 t	0.105006 t	53.7186 t
Indigenous			Unknown	Unknown (No catch under permit)
Recreational			1,143 unspecified octopus landed in 2012–13	Confidential

Victoria – Commercial (Catch). Pale Octopus is not differentiated from other octopuses caught in Victorian commercial fisheries.

Victoria – Indigenous (Management Methods). A person who identifies as Aboriginal or Torres Strait Islander is exempt from the need to obtain a Victorian recreational fishing licence, provided they comply with all other rules that apply to recreational fishers, including rules on equipment, catch limits, size limits and restricted areas. Traditional (non-commercial) fishing activities that are carried out by members of a traditional owner group entity under an agreement pursuant to Victoria’s *Traditional Owner Settlement Act 2010* are also exempt from the need to hold a recreational fishing licence, subject to any conditions outlined in the agreement. Native title holders are also exempt from the need to obtain a recreational fishing licence under the provisions of the Commonwealth’s *Native Title Act 1993*.

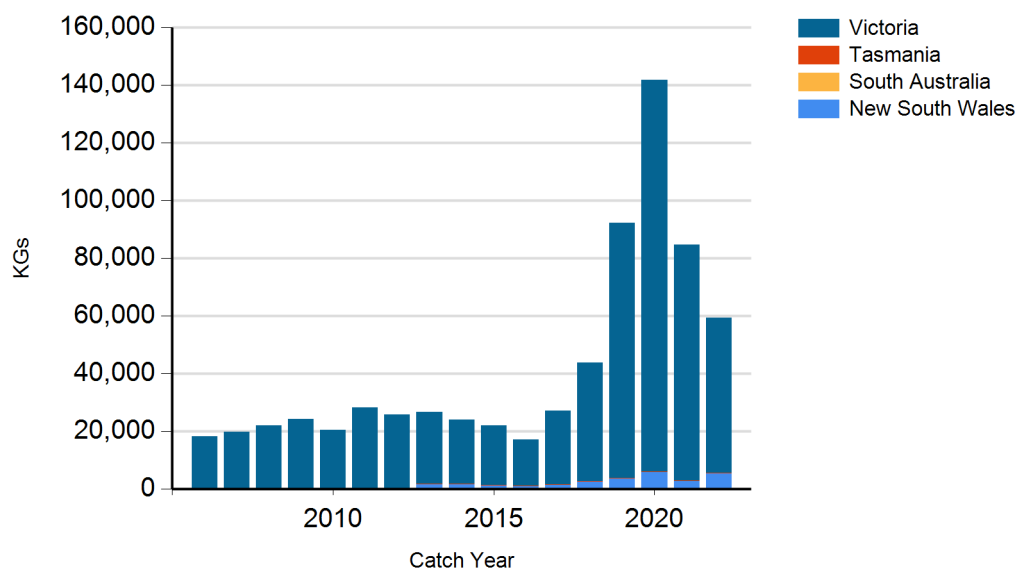
Tasmania – Commercial (Catch). Catches reported for the Tasmanian Octopus Fishery are for the period 1 March to end of February the following year. The most recent assessment available is for 2021–22.

Tasmania – Commercial (Management Methods). A general possession limit of 100 kg of octopus per day (all species combined) is in place for holders of a fishing licence (personal) and a scalefish licence. This limit does not apply to Tasmanian Octopus Fishery licence holders operating in northern Tasmania.

Tasmania – Recreational (Management Methods). In Tasmania, a recreational licence is required for fishers using rock lobster pots, along with nets, such as gillnet or beach seine. A bag limit of five octopus and a possession limit of ten octopus (all species combined) is in place for recreational fishers.

Tasmania – Indigenous. 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



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Commercial catch of Pale Octopus - note confidential catch not shown.

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