

Pale Octopus (2020)

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	Negligible	

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 2015]. Pale Octopus is taken as byproduct in several commercial fisheries. The New South Wales commercial catch between 2009-10 and 2018–19 averaged less than 2.5 tonnes (t) per annum, and Pale Octopus is unlikely to be a major component of recreational landings [Hall 2018]. Fishing is unlikely to have a negative impact on the stock.

**South
Australia**

Stock status for Pale Octopus in South Australia is reported as Negligible due to historically low catches in this jurisdiction and the stock has generally not been subject to targeted fishing. South Australia's commercial catch of Pale Octopus over the past 20 years has averaged 10.7 t per annum, and the species is not a major component of recreational landings. Fishing is unlikely to be having a negative impact on the stock.

Tasmania

In Tasmania, 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 132 t in the 2018–19 season. In 2019–20, catch remained at a similarly high level (120 t), representing the first two consecutive seasons with catches > 100 t. 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 [Krueck et al. 2021].

Standardised CPUE in the TOF, calculated using a general linear model based on total commercial catch and data from the 50-pot sampling program, has fluctuated between roughly 50 and 90 per cent compared to the reference year (2004–05) since 2011–12 [Krueck et al. 2021]. 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, recent 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 for the 2019–20 assessment. The results highlighted that some key traditionally fished areas are still productive, but that declining trends in CPUE are widespread and potentially concerning. CMSY simulations, which were run for a spatially consistent time series of catch data that excluded more recently exploited areas east of King Island, supported these concerns by indicating biomass depletion from 2006–07 onwards down to 30–31% (lower 90% confidence limit of 18–23%) of unfished levels in 2019–20 [Krueck et al. 2021].

In further consideration of the high-risk nature of the fishery, which was formally assessed in 2019–20 [Krueck et al 2021], evidence of localised and total biomass depletion in traditionally fished areas indicates that current levels of fishing are unlikely to be sustainable. 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 harvests predominantly 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 has previously been caught in Victoria by some other commercial licence classes using a variety of gears but was not differentiated from other species of octopus in catch and effort reporting. For instance, landings of octopus of unknown species were recorded by Danish seine vessels up until the

mid-1990s [Conron et al. 2020]. Trawl vessels also reported landings of around 10 t in some years but analysis of CPUE data indicated that there was likely to be a relatively high rate of discarding in earlier years of the series. More recently, many of these vessels have shifted to targeting species in other fisheries.

Pale Octopus have likely been caught, and retained, by a variety of gears and fisheries operating in Eastern Bass Strait [Conron et al. 2020]. A fishery using octopus traps was operational from 1998–2003 and it is likely that some octopus were caught prior to this time but the gear was not accurately reported [VFA 2020]. Small amounts of octopus (< 2t pa) were subsequently caught using traps up until 2015 when landings began to increase in eastern Victoria, reaching 74t in 2019/20 [Conron et al. 2020].

Changes in the way the fishery has operated create uncertainty about the current stock status of Victorian Pale Octopus [Conron et al. 2020]. Due to historical non-reporting of octopus species, it is difficult to ascertain or confirm that targeted fishing in the past 5 years only included Pale Octopus, making its reliable assessment problematic. Substantial additional information will become available in future years from initiatives including research pot sampling now underway and a new research project titled "Understanding population structure and dynamics of Victoria's developing octopus fishery" commencing shortly that expand our knowledge on the species, inform future assessments and its status as the fishery further develops.

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, Leporati et al 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				
Hook and Line				✓
Net				✓
Pots and Traps			✓	
Traps and Pots				✓
Trawl	✓			
Unspecified		✓		✓
Recreational				
Coastal, Estuary and River Set Nets			✓	
Diving				✓
Hand collection			✓	
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		✓
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Catch	New South Wales	South Australia	Tasmania	Victoria
Commercial	3.5198 t	0 t	132.2 t	88.5975 t
Indigenous			Unknown	Unknown (No catch under permit)
Recreational			1 143 unspecified octopus landed in 2012–13	Unknown

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*.

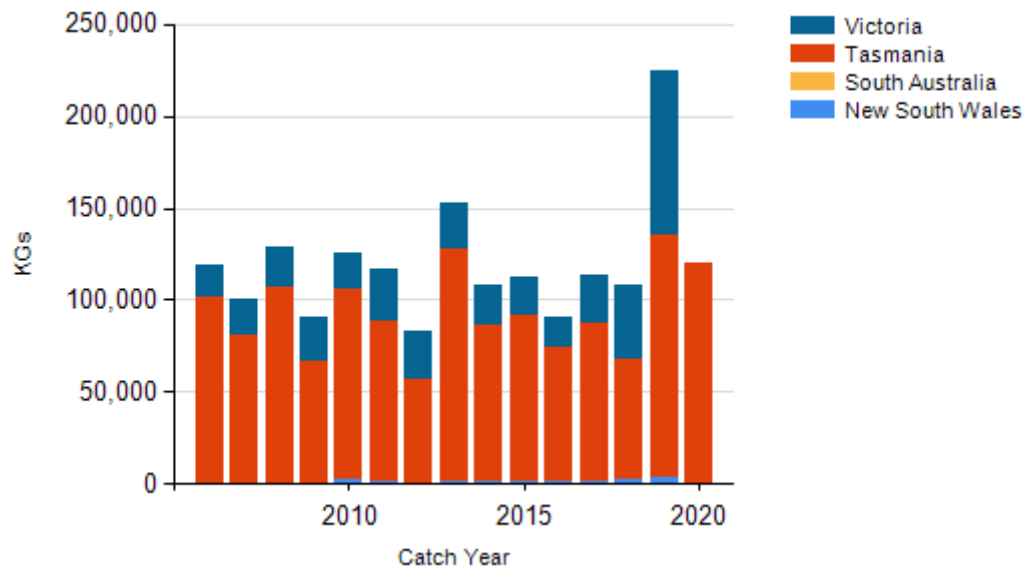
Tasmania – Commercial (catch) Catches reported for the Tasmanian Octopus Fishery are for the period 1 March to end of February the following year. The most recent assessment available is for 2018/19.

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://dpiwwe.tas.gov.au/Documents/Policy%20for%20Aboriginal%20tags%20and%20allotting%20an%20UIC.pdf>).

CATCH CHART



Commercial catch of Pale Octopus - note confidential catch not shown

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