

# Snook (2016)

*Sphyraena novaehollandiae*



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## STOCK STATUS OVERVIEW

Jurisdiction	Stock	Fisheries	Stock status	Indicators
Western Australia	Western Australia	CSFNMF, WL (WC), SCEMF, WL (SC)	Sustainable	Catch
New South Wales	New South Wales	N/A	Negligible	
Victoria	Victoria	CIF, OF, PPBF	Undefined	Catch
Tasmania	Tasmania	SF	Undefined	Catch, effort, <u>CPUE</u> trends
South Australia	South Australia	MSF, NZRLF	Sustainable	Catch, effort, <u>CPUE</u> trends

N/A Not Applicable (NSW), MSF Marine Scalefish Fishery (SA), NZRLF Northern Zone Rock Lobster Fishery (SA), SF Scalefish Fishery (TAS), CIF Corner Inlet Fishery (VIC), OF Ocean Fishery (VIC), PPBF Port Phillip Bay Fishery (VIC), CSFNMF, WL (WC) Cockburn Sound Crab Managed Fishery, Open access in the West Coast (WA), SCEMF South Coast Estuarine Managed Fishery (WA), WL (SC) Open Access in the South Coast (WA)

## STOCK STRUCTURE

Also known as Shortfin Pike, Snook is distributed around southern Australia from Jurien Bay in Western Australia to southern Queensland, including northern Tasmania. It is usually found over seagrass beds and kelp reefs near the surface both in inshore and offshore waters of up to 20 m[1–3]. There is little information available on the stock structure of Snook in Australian waters.

Here, assessment of stock status is presented at the jurisdictional level—Western Australia, New South Wales, Victoria, Tasmania and South Australia.

## STOCK STATUS

**New South Wales** Stock status for the New South Wales is reported as negligible due to low catches in this jurisdiction. New South Wales commercial catch in 2010–15 averaged less than 50 kg per year, and Snook is not a major component of recreational landings.

**South Australia** Snook are considered a secondary species within South Australia's multispecies, multi-gear and multi-sectoral commercial Marine Scalefish Fishery. Approximately 25 per cent of the annual catch is targeted using troll lines and hauling nets, with the remaining 75 per cent landed as by-product when fishers are targeting other higher value species. Targeted catch rates for both gear types are typically variable, ranging between 20–30 kg per fisher day and 20–80 kg per fisher day for troll lines and hauling nets, respectively. Total annual commercial catches have declined from a peak of 147 t in 1995 to 47 t in 2015, driven by an 81 per cent reduction in fishing effort. During this time, catch rates have remained relatively stable, declining by less than one per cent and 11 per cent for the troll line and hauling net sectors, respectively. Current estimates of total catch, targeted fishing effort and associated catch rates for both gear types are within the general trigger reference points prescribed in the fishery's management plan (that is, within the 3[rd] highest/lowest boundaries over the 31-year reference period)[6]. It was estimated that in 2013–14, 126 t was harvested by the recreational sector, which was 53 per cent greater than the previous 2007–08 estimate[7]. The low contemporary catches and low levels of effort, combined with moderate–high targeted catch rates within the commercial fishery is unlikely to cause the South Australian stock to become recruitment overfished.

On the basis of the evidence provided above, Snook in South Australia is classified as a **sustainable stock**.

**Tasmania** The fishery for Snook in Tasmania is small and mainly limited to northern areas of the state. Snook, for the most part, are a by-product species, but may be targeted opportunistically by a small number of fishers. Prior to 2000, commercial landings of Snook averaged 15 t, before declining to around 5 t in the mid-2000s[5]. Since 2005, landings have remained fairly stable, averaging 6–9 t[5]. There are no estimates of recreational landings but evidence suggests that 'Pike' are not a major recreational target and when caught, most are released. Snook is usually targeted through the use of troll or small mesh net fishing gear and is a by-product of beach seining and gillnetting[5]. Trolling effort for Snook has been relatively stable in recent years, while mesh net effort has been variable. Catch rates have also been variable for both methods, but with some evidence of a decline in recent years. While catches are low and likely to be within sustainable levels, a lack of information as to the biological vulnerability of this species to fishing means there is insufficient information available to confidently classify the status of the stock.

On the basis of the evidence provided above, Snook in Tasmania is classified as an **undefined stock**.

**Victoria** In Victoria, landings of Snook (Shortfin Pike) and Longfin Pike (*Dinolestes lewini*) are not reported separately. Consequently, reported catches are pooled and

reported as 'Pike'. Pike are mainly caught in the Port Phillip Bay Fishery (PPBF) and Corner Inlet Fishery (CIF) where 28.5 t and 5.8 t were landed, respectively. In the PPBF, Pike are landed using mesh nets and haul seines. The location of capture and inspection by Fisheries Officers, suggest that these fish are likely to be Longfin Pike (*pers com* Fisheries Officer Burgess). In the CIF, 'Pike' are landed using mesh net and haul seine, although the species proportion is unknown. There is insufficient information available to confidently classify the status of this stock.

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

**Western Australia**

In Western Australia, Snook and Pike (Family: Sphyraenidae) are very minor components of commercial and recreational catches. Commercially, the highest catches of Snook were reported from the South Coast Wet Line sector, but catches have been less than 3 tonnes (t) for most years since 1999. Snook are not targeted by any sector and there is no evidence that catches have fluctuated greatly through time. The 2015 estimated catch of around 5 t was the highest since 1999.

In Western Australia, all finfish species are allocated to a suite[4]. Snook are part of the nearshore suite in temperate Western Australia. Indicator species are identified, based on biological vulnerability and frequency of capture and include King George Whiting, Australian Salmon and Sea Mullet. As the indicator species are sustainable and under management, therefore the status of Snook is also sustainable.

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

**BIOLOGY**

Snook biology[1–3]

Species	Longevity / Maximum Size	Maturity (50 per cent)
Snook	20 years; 1100 mm <u>TL</u>	420 mm <u>TL</u>

**DISTRIBUTION**



Distribution of reported commercial catch of Snook

**TABLES**

Commercial Catch Methods	New South Wales	South Australia	Tasmania	Victoria	Western Australia
Beach Seine			✓		
Coastal, Estuary and River Set Nets			✓		
Gillnet			✓		
Hand Line, Hand Reel or Powered Reels			✓		
Haul Seine		✓		✓	
Line				✓	
Mesh Net				✓	
Otter Trawl				✓	
Trolling		✓	✓		
Unspecified	✓	✓		✓	
Unspecified - Seine				✓	
Various			✓		✓

Fishing methods	New South Wales	South Australia	Tasmania	Victoria	Western Australia
<b>Commercial</b>					
Beach Seine			✓		
Coastal, Estuary and River Set Nets			✓		

River Set Nets					
Hand Line, Hand Reel or Powered Reels			✓		
Haul Seine		✓		✓	
Line				✓	
Mesh Net				✓	
Trolling		✓			
Unspecified	✓	✓		✓	
Unspecified - Seine				✓	
Various			✓		✓
<b>Recreational</b>					
Gillnet			✓		
Hand Line, Hand Reel or Powered Reels		✓	✓	✓	✓
Spearfishing				✓	
Trolling		✓	✓	✓	✓
<b>Management Methods</b>					
	<b>South Australia</b>	<b>Tasmania</b>	<b>Victoria</b>	<b>Western Australia</b>	
<b>Commercial</b>					
Gear restrictions	✓	✓	✓	✓	
Limited entry	✓	✓	✓	✓	
Spatial closures	✓		✓	✓	
<b>Recreational</b>					
Bag and possession limits	✓	✓	✓	✓	
Licence		✓	✓	✓	
Size limit	✓		✓	✓	
Spatial closures				✓	
<b>Active Vessels</b>					
	<b>South Australia</b>	<b>Tasmania</b>	<b>Victoria</b>	<b>Western Australia</b>	
	101 license in MSF, 99 Vessel in MSF.	18 Vessel in SF,	15 Vessel in CIF, 26 Vessel in PPRF.	27 License in SCEMF, 69 License in WI	

(SC),

**MSF** Marine Scalefish Fishery(SA)

**SF** Scalefish Fishery(TAS)

**CIF** Corner Inlet Fishery(VIC)

**PPBF** Port Phillip Bay Fishery(VIC)

**SCEMF** South Coast Estuarine Managed Fishery(WA)

**WL (SC)** Open Access in the South Coast(WA)

Catch					
	New South Wales	South Australia	Tasmania	Victoria	Western Australia
<b>Commercial</b>		46.6854t in MSF,	6.4846t in SF,		0.999t in CSFNMF, WL (WC), 0.199t in SCEMF, 3.775t in WL (SC),
<b>Recreational</b>		126.3 (2013/14)	Unknown	Unknown	Negligible

N/A Not Applicable (NSW), MSF Marine Scalefish Fishery (SA), NZRLF Northern Zone Rock Lobster Fishery (SA), SF Scalefish Fishery (TAS), CIF Corner Inlet Fishery (VIC), OF Ocean Fishery (VIC), PPBF Port Phillip Bay Fishery (VIC), CSFNMF, WL (WC) Cockburn Sound Crab Managed Fishery, Open access in the West Coast (WA), SCEMF South Coast Estuarine Managed Fishery (WA), WL (SC) Open Access in the South Coast (WA),

**a Tasmania – Recreational (management methods)** In Tasmania, a recreational licence is required for fishers using dropline or longline gear, along with nets, such as gillnet or beach seine.

**b Western Australia – Recreational (management methods)** In Western Australia, a recreational fishing from boat licence is required to take finfish from a powered vessel.

**c Victoria – Indigenous (management methods)** In Victoria, regulations for managing recreational fishing are also applied to fishing activities by Indigenous people. Recognised Traditional Owners (groups that hold native title or have agreements under the Traditional Owner Settlement Act 2010 [Vic]) are exempt (subject to conditions) from the requirement to hold a recreational fishing licence, and can apply for permits under the Fisheries Act 1995 (Vic) that authorise customary fishing (for example, different catch and size limits or equipment). The Indigenous category in Table 3 refers to customary fishing undertaken by recognised Traditional Owners. In 2015, there were no applications for customary fishing permits to access Snook.

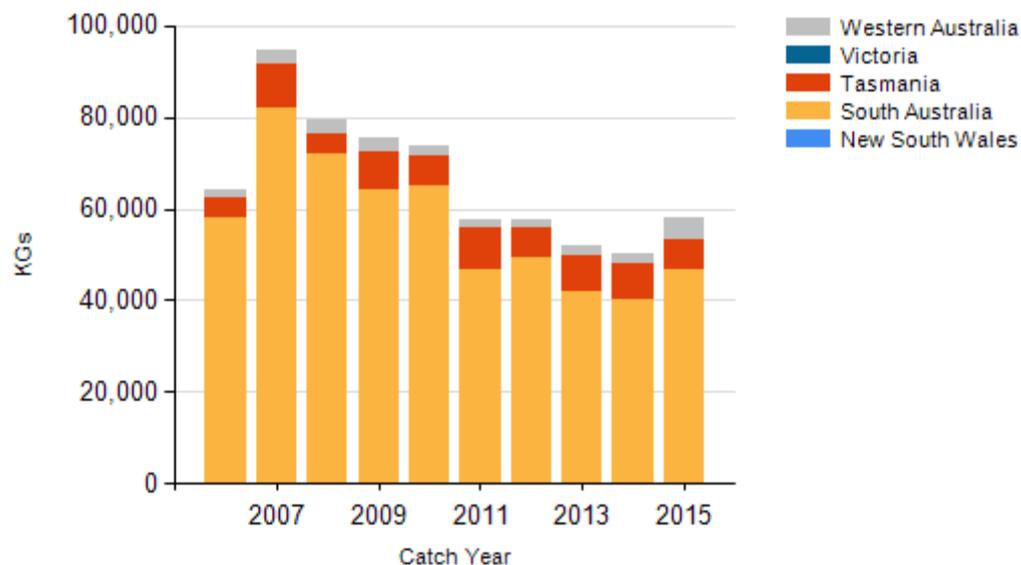
**d Victoria – Indigenous (management methods)** Subject to the defence that applies under Section 211 of the Native Title Act 1993 (Cth), and the exemption from a requirement to hold a Victorian recreational fishing licence, the non-commercial take by indigenous fishers is covered by the same arrangements as that for recreational fishing.

**e Tasmania – Indigenous (management methods)** In Tasmania, aborigines engaged in aboriginal 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. Additionally, recreational bag and possession limits also apply. If using pots, rings, set lines or gillnets, aborigines must obtain a unique identifying code (UIC). The policy document Recognition of Aboriginal Fishing Activities for issuing a Unique Identifying Code (UIC) to a person for Aboriginal Fishing activity explains the steps to take in making an application for a UIC.

**f Western Australia – Recreational (catch)** Western Australia boat-based recreational catch from 1 May 2013–30 April 2014.

**g Victoria – Commercial (catch)** Snook is not differentiated from Longfin Pike caught in Victorian commercial fisheries.

## CATCH CHART



Commercial catch of Snook - note confidential catch not shown

#### EFFECTS OF FISHING ON THE MARINE ENVIRONMENT

- *Trolling was considered a low risk to Snook populations in the 2012–13 ecological risk assessment (ERA) of the Tasmanian Scalefish Fishery[8]. It was also considered to have a negligible impact on associated by-product and bycatch species as capture is minimal and most are released alive and healthy. Trolling was also considered to be of negligible risk to threatened, endangered and protected (TEP) species as interactions are rare. While 'Pike' is an important predator, it is unlikely that the current level of fishing pressure is high enough to impact the ecosystem structure and associated marine environment.*
- *Mesh netting was considered a high risk to Snook populations in the 2012–13 ERA of the Tasmanian Scalefish Fishery[8]. This is due to the significant overlap between this sub-fishery and the species' distribution along the north coast of Tasmania. Snook is also highly selected by the mesh size used and is usually retained. Some TEP species were also considered medium risk from mesh netting including: marine mammals, seabirds and chondrichthyans due to their low productivity and post release survival. Importantly, cormorants were ranked high risk, due to the increased likelihood of interactions occurring caused by gear being deployed in shallower waters. In reality, mesh net effort in northern Tasmania is at such a low level that the risk to these species is likely lower than identified in the ERA.*
- *The Victorian Bays and Inlets commercial fishers have adopted environmentally responsible fishing practices[9]. It is likely that fishing activities have minimal impact on the environment.*

#### ENVIRONMENTAL EFFECTS on Snook

- The impact of environmental factors on Snook is unknown. However, their abundance and distribution are likely to be affected by environmental conditions, including ocean currents, temperature and salinity, which may influence habitat suitability, food availability and recruitment.

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5	Emery, T, Lyle, J and Hartmann, K 2016, <i>Tasmanian Scalefish Fishery assessment 2014/15</i> , Institute for Marine and Antarctic Studies, University of Tasmania, Hobart.
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