

Southern Sand Flathead (2016)

Platycephalus bassensis



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STOCK STATUS OVERVIEW

Jurisdiction	Stock	Fisheries	Stock status	Indicators
Western Australia	Western Australia	N/A	Negligible	
Victoria	Victoria	CIF, ITF, OF, PPBF	Environmentally limited	Catch, biomass, <u>CPUE</u>
Tasmania	Tasmania	SF	Transitional-depleting	Catch
South Australia	South Australia	N/A	Negligible	

N/A Not Applicable (SA), SF Scalefish Fishery (TAS), CIF Corner Inlet Fishery (VIC), OF Ocean Fishery (VIC), PPBF Port Phillip Bay Fishery (VIC), ITF Inshore Trawl Fishery (VIC), N/A Not Applicable (WA)

STOCK STRUCTURE

Southern Sand Flathead (*Platycephalus bassensis*) is endemic to Australia and distributed from the central New South Wales coast, around Tasmania to South Australia, and to Bremer Bay in Western Australia[1]. Southern Sand Flathead inhabit bays, inlets, estuaries and shallow coastal waters to a depth of around 100 m[2]. There is some evidence of regional subpopulations with differences in physical characteristics, recruitment dynamics and growth rates. For example, Southern Sand Flathead from Port Phillip Bay have slower growth and the asymptotic length is 30 per cent smaller than fish from Bass Strait and 20 per cent smaller than fish from south-east Tasmania[3]. However, biological stock structure has not been studied in detail and each of the jurisdictions has different management arrangements for Southern Sand Flathead.

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

STOCK STATUS

South Australia Stock status for South Australia is reported as negligible due to low catches by this jurisdiction. The species is rare in South Australia; catch is unknown but very low, possibly zero.

Tasmania In Tasmanian waters, Southern Sand Flathead are mainly landed commercially by hook and line gear, with minor catches taken by gillnet and Danish seine. Total landings are low, less than 8 t per year over the past 5 years with only 3.3 t landed in 2015–16. In contrast, Southern Sand Flathead dominates the recreational fishery in terms of overall catch numbers and weight, with an estimated 209 t landed in 2012–13[7]. Due to a lack of quantitative commercial fishing data and uncertainty surrounding the catch and effort levels of the recreational fishery, a fishery-independent survey commenced in 2012 using fishing gear and targeting practices typical of recreational fishers in areas of significant effort[8]. This survey provided data on age and length frequency of Sand Flathead as well as catch rates. The survey indicated relatively low abundances of legal sized fish, particularly in south-eastern Tasmania. For example, the D'Entrecasteaux Channel has the highest level of exploitation (24 per cent of state-wide catches) and has exhibited the most dramatic fall in relative abundance of fish above the original size limit (300 mm). Catch rates and age structure data indicate that populations are subject to heavy fishing pressure, especially relative to historic levels. Standardised catch rates between 2012 and 2016 have fallen in all three areas sampled (D'Entrecasteaux Channel, Frederick Henry Norfolk Bay and Great Oyster Bay). For example, catch rates declined from more than 10 flathead per hour to less than 5 flathead per hour in the Frederick Henry Norfolk Bay region. In November 2015, recreational bag limits were reduced from 30–20 and the minimum size increased from 300–320 mm to reduce fishing pressure on the populations. The impact of these measures will not be evident until future assessments. Based on available information it is concluded that the current fishing pressure remains high and likely to cause the stock to become recruitment overfished.

On the basis of the evidence provided above, Southern Sand Flathead in Tasmania is classified as a **transitional–depleting stock**.

Victoria Southern Sand Flathead historically comprised a significant component of the commercial catch in Victoria, with more than 200 tonnes (t) taken annually from Port Phillip Bay for a period, until the 1950s[2]. This species has also been an important component of the recreational fishery, with an estimated 322 t caught in 2000–01[3,4]. In recent times Southern Sand Flathead has been a commercial bycatch species and the state-wide commercial catch for 2014–15 was less than 5 t, of which 3.6 t came from bays and inlets (mostly Port Phillip Bay)[5].

Estimates of total biomass for Southern Sand Flathead in Port Phillip Bay, based on fishery-independent trawl surveys, declined by 87 per cent between 2000 and 2010, and the reproductive biomass declined by 60–70 per cent[3]. No biomass estimates are available since then however, recent commercial catch rates (between 2 and 3 kg per 1000 hook-lifts) remain below the long term average (about 6.5 kg per 1000 hook-lifts), suggesting little recovery since 2010[5]. This decline is due to persistent poor recruitment, which is thought to relate to changing environmental conditions[3]. The index of recruitment for Port Phillip Bay Southern Sand Flathead (based on fish aged 0+ years) has remained very low since 1998 and appears to be stable below the long-term average. This long-term period of low recruitment will mean that natural

recovery of the Port Phillip Bay Southern Sand Flathead biomass is unlikely in the near future[5].

There is no formal management plan and no limit reference point for Victorian Southern Sand Flathead. Despite the substantial decline in biomass and the significant decline in recruitment for Port Phillip Bay populations[3], there is no evidence that these trends are caused by the removal of catch. However, the spawning stock biomass is likely to have declined to the point where average recruitment levels are now significantly reduced.

On the basis of low catch (around 5 t per year) and a reduction to the number of licences operating in Port Phillip Bay, the current level of fishing pressure is considered to be relatively low from the commercial sector and is unknown for the recreational sector (the last estimates of exploitation rate were 10 years ago). For many years it was considered that levels of fishing pressure had little influence on Port Phillip Bay Southern Sand Flathead spawning success. This is partly because at least 50 per cent of the population is below the size at which they become vulnerable to fishing[6] however, many of these small fish are either immature or have low egg production. A further increase in the size limit to 270 mm in 2009 is expected to decrease the proportion of the population able to be harvested. It is also estimated that most lip-hooked Southern Sand Flathead survive after release, if handled properly[3].

The most recent estimate of annual exploitation rate of the reproductive biomass in 2006–07 was 44 per cent and there are signs that the age structure of the population is truncating[5,6]. These signals are of concern, but appear limited to the Port Phillip Bay population. Similar changes have not been found in the Western Port population and little is known about Southern Sand Flathead population status from coastal Victorian waters.

On the basis of the evidence provided above, Southern Sand Flathead in Victoria is classified as an **environmentally limited stock**

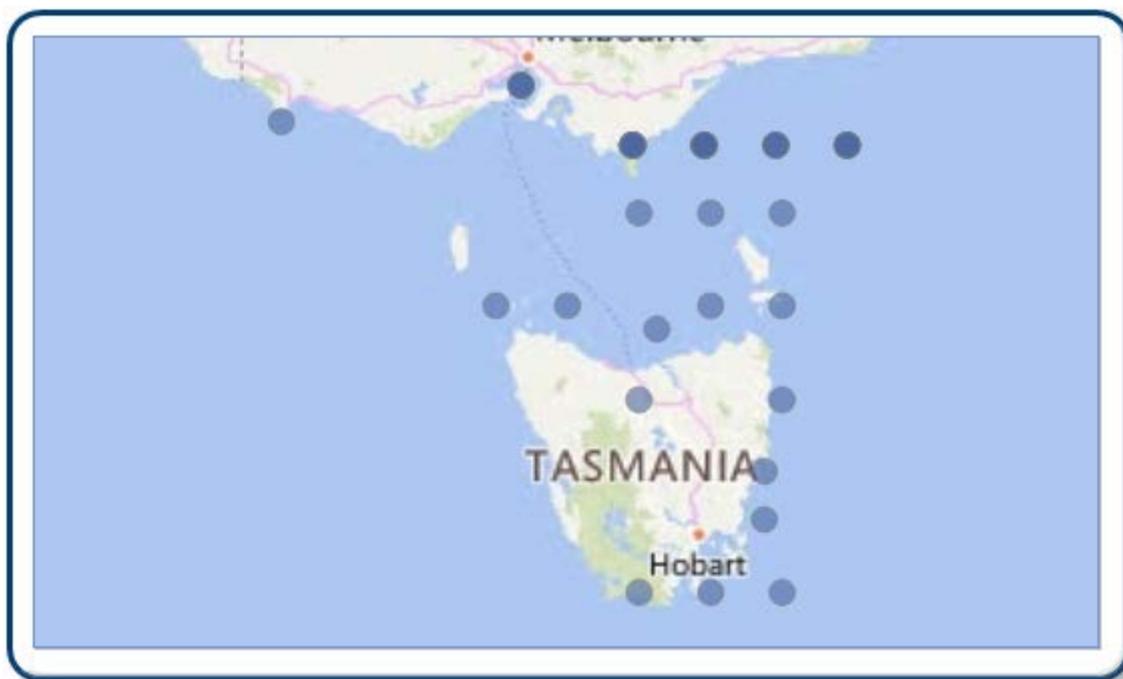
Western Australia Stock status for Western Australia is reported as negligible due to low catches by this jurisdiction. The species is rare in Western Australia; catch is unknown but very low, possibly zero.

BIOLOGY

Southern Sand flathead biology[8]–[10]

Species	Longevity / Maximum Size	Maturity (50 per cent)
Southern Sand Flathead	23 years (both sexes) Males 370 mm <u>TL</u> Females 480 mm <u>TL</u>	Males 2.5–3.5 years, 210 mm <u>TL</u> Females 2.6–5.2 years, 235 mm <u>TL</u>

DISTRIBUTION



Distribution of reported commercial catch of Southern Sand Flathead

TABLES

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

Fishing methods	South Australia	Tasmania	Victoria	Western Australia
Commercial				

Coastal, Estuary and River Set Nets		✓		
Gillnet		✓		
Hand Line, Hand Reel or Powered Reels		✓		
Haul Seine			✓	
Line			✓	
Mesh Net			✓	
Otter Trawl			✓	
Unspecified	✓			✓
Various		✓		
Recreational				
Diving			✓	
Hand Line, Hand Reel or Powered Reels		✓	✓	

Management Methods		
	Tasmania	Victoria
Commercial		
Limited entry	✓	✓
Size limit	✓	✓
Spatial closures	✓	✓
Vessel restrictions	✓	✓
Recreational		
Bag limits	✓	✓
Size limit	✓	✓

Active Vessels		
	Tasmania	Victoria
	48 Vessel in SF,	6 Fisher in CIF, 9 Fisher in ITF, 18 Fisher in PPBF,

SF Scalefish Fishery(TAS)

CIF Corner Inlet Fishery(VIC)

PPBF Port Phillip Bay Fishery(VIC)

ITF Inshore Trawl Fishery(VIC)

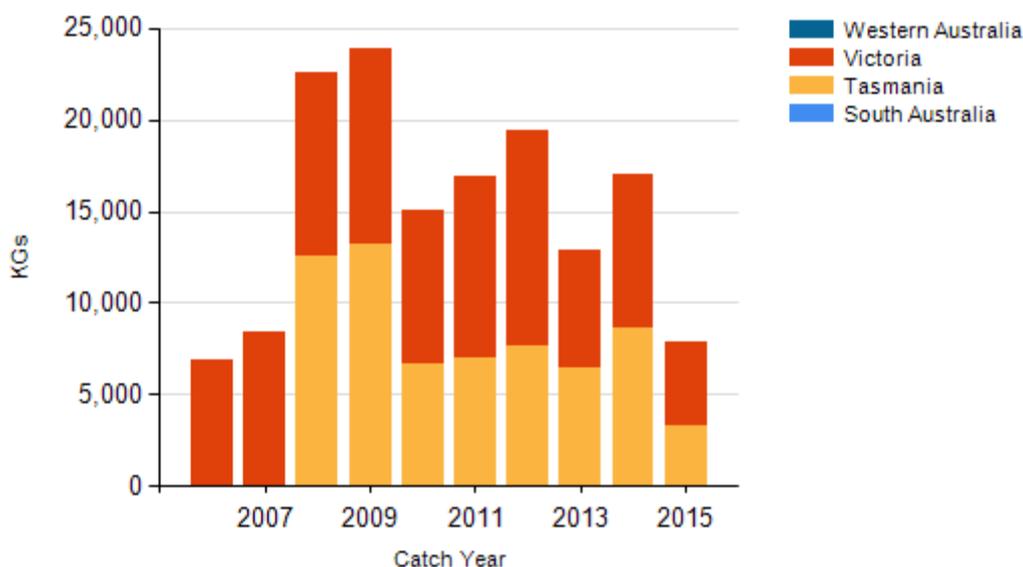
Catch	South Australia	Tasmania	Victoria	Western Australia
Commercial		3.3486t in SF,	2.327t in CIF, 1.192t in ITF, 0.975t in PPBF,	
Indigenous		Unknown	None	
Recreational		209 t (2012-13)	Unknown	

N/A Not Applicable (SA), SF Scalefish Fishery (TAS), CIF Corner Inlet Fishery (VIC), OF Ocean Fishery (VIC), PPBF Port Phillip Bay Fishery (VIC), ITF Inshore Trawl Fishery (VIC), N/A Not Applicable (WA),

a Victoria – Indigenous 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 Southern Sand Flathead.

b 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.
c Tasmanian – Indigenous In Tasmania, Indigenous people 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, as do size limits. 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.

CATCH CHART



Commercial catch of Southern Sand Flathead - note confidential catch not shown

EFFECTS OF FISHING ON THE MARINE ENVIRONMENT

- Because most of the catch (95 per cent) is taken by recreational anglers using hand

lines, and rods and reels, the effects of fishing on the marine environment are relatively low.

ENVIRONMENTAL EFFECTS on Southern Sand Flathead

- A recent review concluded that declining recruitment from the mid-1990s onwards led to the decline of Southern Sand Flathead stocks in Port Phillip Bay from 2000 onwards. This decline in recruitment coincided with a prolonged drought in Victoria from 1997–2009, characterised by substantially lower rainfall and river flows[3]. The authors found that recruitment in Port Phillip Bay was significantly correlated with Yarra River flows during November and December, when the majority of Southern Sand Flathead larvae occur in the water column. It is suggested that climatic effects on this stage of the life cycle may be driving variations in recruitment.

References	
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7	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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