

Southern Sand Flathead (2020)

Platycephalus bassensis



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STOCK STATUS OVERVIEW

Jurisdiction	Stock	Stock status	Indicators
Western Australia	Western Australia	Negligible	
Victoria	Port Phillip Bay	Recovering	Catch, CPUE, survey biomass estimates, survey pre-recruit estimates, age/ length compositions
Victoria	Victoria Other	Sustainable	Catch, CPUE
Tasmania	Tasmania	Depleting	Catch, CPUE, length and age composition, fishery-independent survey
South Australia	South Australia	Undefined	

STOCK STRUCTURE

Southern Sand Flathead (*Platycephalus bassensis*) is endemic to Australia and inhabits bays, inlets, estuaries and shallow coastal waters to a depth of around 100 m from the central New South Wales coast, around Tasmania to South Australia and southern Western Australia [Gomon et al. 2008]. There is some evidence of regional sub-populations with differences in physical characteristics, recruitment dynamics and growth rates. Information from tagging, larval sampling and growth rate studies [Brown 1977, Hamer et al. 2010, Hirst et al. 2014], indicate that Southern Sand Flathead in Port Phillip Bay, Victoria, comprise a distinct biological stock that has slower growth, and asymptotic length that is 30 per cent smaller than fish from Bass Strait and 20 per cent smaller than fish from south east Tasmania [Hirst et al. 2014, Koopman et al. 2009]. However, biological stock structure has not been studied in detail in other areas and each of the State jurisdictions have different management arrangements for Southern Sand Flathead.

Here, assessment of stock status is presented at the biological stock level—Port Phillip Bay (Victoria); at the management unit level—Corner Inlet and Victoria Other (Victoria); and at the jurisdictional level—Western Australia, Tasmania, and South Australia.

STOCK STATUS

Corner Inlet Southern Sand Flathead is a minor species in the Corner Inlet-Nooramunga commercial fishery, with catches averaging about 5 t per year over the last 10 years, and not exceeding 7 t per year since 2000 [Conron et al. 2016a]. Southern Sand Flathead are not a key target species in this fishery, and the commercial catch is expected to remain around the same low level in the immediate future. The majority of the catch is taken by haul seine. Catch rates by haul seine have varied at levels below the long-term average since 1998/99, but displayed an increasing trend from 2006/07 until 2011/12, before falling again over the following three years. The recent five year average catch rate is 20 per cent below the long-term average [Conron et al. 2016]. However, there is some uncertainty about the reliable identification of Southern Sand Flathead in catch and effort reporting, particularly in the early years of the time series, meaning changes in landings may not be reflective of available biomass.

Southern Sand Flathead are also targeted by recreational fishers in Corner Inlet-Nooramunga, but there is limited information on catch, effort or catch rate trends for the recreational fishery.

Overall, the consistent low commercial catches for over more than 15 years would indicate that the current level of fishing mortality is unlikely to cause the stock to become recruitment impaired.

On the basis of the evidence presented above, Southern Sand Flathead in the Corner Inlet (Victoria) management unit is classified as **sustainable**.

Port Phillip Bay Historically large commercial catches (~200–300 t pa) were taken from Port Phillip Bay (PPB)[Koopman et al. 2009], but since the 1980s have declined to negligible levels (< 1 t pa) due to removal of commercial effort by license buy-back schemes and lack of targeting by the remaining operators. Catch from PPB is now entirely recreational, accounting for 80% of all flathead species taken [Hirst et al. 2014]. Although recent estimates of recreational catch are unavailable, estimates in the late 1980s indicated catches of flathead species from PPB were about 450 t per year [MacDonald and Hall 1987] and by the mid-2000s had dropped to approximately 110 t pa [Hirst et al. 2014, Ryan et al. 2009].

Standardised CPUE from creel surveys has remained relatively low since the mid-2000s and in 2018/19 was about midway between minimum (i.e. 2013/14) and average values [Conron et al. 2020]. Creel CPUE indicates that availability of legal-sized sand flathead has stabilised since 2008 with signs of an increase from the lowest point in 2013 [Conron et al. 2020]. Consistent with creel CPUE, diary angler CPUE showed historic declines, but since 2011 its increasing trend is more pronounced than for creel CPUE and is now above the average [Conron et al. 2020]. Unlike creel CPUE, diary angler CPUE represents catch rates of fish both above and below the LML, and the recent increasing trend is influenced by increased abundance of pre-recruit sand flathead below the LML since 2011 [Conron et al. 2020] that do not contribute to the creel survey catch rates.

Long-line CPUE [Conron et al. 2020] is not considered indicative of stock status since 2015 due to the exceptionally low reported catches but is analysed nevertheless for context along with mature biomass inferred from otter trawls (ceased in 2011) [Conron et al. 2020]. These two indicators of mature biomass show a period of higher biomass from the mid-1990's to the early 2000's [Conron et al. 2020]). Ongoing small beam trawl CPUE for mature fish (>25 cm TL) indicates a similar drop in biomass from 2004 to 2006 as per long-line and trawl biomass, but an increasing trend since 2012 consistent with diary angler data [Conron et al. 2020]. Again, this increasing trend is influenced by fish less

than the LML being included in the beam trawl survey. Overall, various CPUE indices suggest abundance is slowly increasing from an historic low during the late 2000's, with the current increases in abundance due to recent recruitment to a population now dominated by small fish just below the LML.

Pre-recruit abundance indicates high biomass during the mid-1990s to early 2000s was due to strong recruitment during the late 1980's to mid-1990's [Conron et al. 2020]. Recruitment levels since 2000 have been much lower, driving the biomass declines observed during the 2000s. The stock has now stabilised at a lower biomass under this lower recruitment regime, and recruitment has been sufficient to balance natural and fishing mortality at this lower level. Recent recruitment events (i.e. 2009, 2013) have been important in stemming ongoing decline, and driving some increase in biomass. The 2018 recruitment is expected to contribute to the stability of the stock and may be sufficient to support continuation of a slowly increasing trend.

On balance, the PPB population has been stable over the last decade at lower levels of abundance than during the 1990s. Recent recruitment is sufficient to balance natural mortality and fishing impacts so that overfishing is unlikely to be occurring. Despite recent signs of slow recovery in recreational CPUE, ongoing recovery in stock biomass will remain slow due to ongoing low recruitment. While stock biomass is still considered depleted relative to levels observed in the early 2000s, the level of fishing mortality should allow the stock to recover from its recruitment impaired state and there is evidence that this is occurring.

On the basis of the evidence provided above, Southern Sand Flathead in Port Phillip Bay (Victoria) is classified as a **recovering** stock.

South Australia

Eight species of flathead are taken in commercial catches from the coastal waters of South Australia. Whilst the Southern Sand Flathead is likely to be the most abundant of these, there is no differentiation amongst species in logbooks for South Australia's commercial multispecies, multi-gear and multi-sectoral Marine Scalefish Fishery (MSF). The total reported annual catch across all flathead species between 2008 and 2019 has been low averaging 2 t per year and ranging from <1 to 6 t per year [Steer et al. 2020]. These catches are taken with a variety of line and net gear types. The most recent estimate of recreational catch across the eight species of flathead was 8 t in 2013/2014 [Giri and Hall 2015]. There is no published assessment of Southern Sand Flathead, and there are no data available to estimate biomass or exploitation rates. In addition, there is no knowledge on recruitment or harvestable biomass, and there are no defined target or limit reference levels. This prevents 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 presented above, the **Southern Sand Flathead stock** in South Australia is classified as **undefined**.

Tasmania

In Tasmanian waters, Southern Sand Flathead are targeted primarily by recreational fishers. Commercial catches are comparatively minor. Commercial fishing methods include hook and line gears (primarily), gillnet and Danish seine. Records of commercial landings show peak catches of roughly 10-15 t between 1995/96 and 2008/09. From then on, commercial catches have declined to less than 10 t, amounting to only 3.5 t and 2.8 t in 2017/18 and 2018/19, respectively [Krueck et al. 2020]. Recreational catches of Southern Sand Flathead are substantially higher, with an estimated total of 184 t landed in 2017/18 [Lyle et al. 2019]. The low commercial catch relative to that taken by the recreational sector means that limited inferences can be made about stock

status based on commercial catch and effort data. Thus, fishery-independent surveys were implemented using fishing gear and targeting practices typical of recreational fishers in areas of significant effort [Ewing et al. 2014]. Surveys have been conducted annually since 2012 and provide data on catch rates as well as the age and size composition of Southern Sand Flathead. Survey results indicated low abundances of legal sized fish, particularly in south-eastern Tasmania. In November 2015, recreational daily bag limits were therefore reduced from 30 to 20 and the minimum legal size increased from 300 to 320 mm. Continued monitoring and analysis of survey data indicate that these changes may benefit populations, but that current levels of fishing mortality remain above recommendable levels, particularly for females [Krueck et al. 2020]. On the basis of this information, Southern Sand Flathead in Tasmania is classified as **depleting**.

**Victoria
Other**

Victorian commercial catch of Southern Sand Flathead from coastal waters and other bays and inlets besides Corner Inlet-Nooramunga and Port Phillip Bay is low, averaging about 1.5 t per year since 2000. Recreational catch is not known. Information on recreational catch rates from creel surveys in Western Port have shown variable catch rates from 1998 until 2018/19, but unlike Port Phillip Bay, there is no evidence of a long-term declining trend during the 2000s, and Southern Sand Flathead is not a priority target species [Conron et al. 2016b].

Given the low commercial harvest of only 1 t in 2018/19 and lack of declining trend in recreational catch rates in Western Port, the current level of fishing mortality of Southern Sand Flathead in the "Victorian Other" management unit is unlikely to cause the stock to become recruitment impaired.

On the basis of the evidence provided above, Southern Sand Flathead in the "Victorian Other" management unit is classified as a **sustainable**.

**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. This stock has not previously been depleted, is not subject to targeted fishing and the current level of fishing is unlikely to be having a negative impact on the stock.

BIOLOGY

Southern Sand Flathead biology [Bani and Moltschaniwskyj 2008, Brown 1977, Jordan 1998, Koopman et al. 2004]

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

DISTRIBUTION



Distribution of reported commercial catch of Southern Sand Flathead

TABLES

Fishing methods			
	South Australia	Tasmania	Victoria
Commercial			
Hand Line, Hand Reel or Powered Reels		✓	
Hook and Line			✓
Net			✓
Unspecified	✓	✓	
Recreational			
Gillnet		✓	
Hook and Line	✓	✓	✓
Spearfishing			✓

Management Methods				
	South Australia	Tasmania	Victoria	Western Australia
Charter				
Bag limits		✓	✓	✓
License			✓	✓
Limited entry				✓
Marine park closures		✓	✓	
Size limit		✓	✓	✓

Commercial				
Gear restrictions	✓	✓	✓	
Licence			✓	
License				✓
Limited entry	✓	✓	✓	✓
Size limit	✓	✓	✓	✓
Spatial closures		✓	✓	
Vessel restrictions		✓		
Recreational				
Bag and possession limits		✓		
Bag limits	✓	✓	✓	
Bag/possession limits				✓
Gear restrictions		✓	✓	
Licence		✓	✓	
Licence (Recreational Fishing from Boat License)				✓
Size limit	✓	✓	✓	✓
Spatial closures		✓	✓	
Temporal closures				✓

Catch	South Australia	Tasmania	Victoria	Western Australia
Commercial	0.9773 t	2.83741 t	1.0129 t	0 t
Indigenous	None	Unknown	Unknown (No catch under permit)	
Recreational	8.3 t across all flathead species in 2013/14	184 t (2017/18)	Unknown	

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

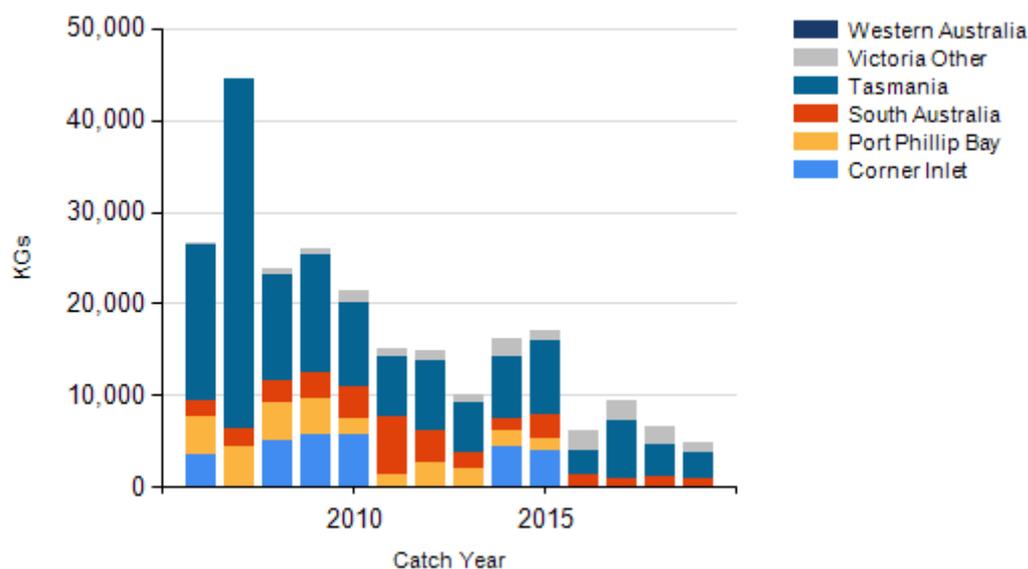
exempt from the need to obtain a recreational fishing licence under the provisions of the Commonwealth's *Native Title Act 1993*.

Tasmania – Commercial (Catches) Catches reported for the Tasmanian Scalefish Fishery are for the period 1 July to 30 June the following year. The most recent assessment available is for 2016–17

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. The species is subject to a minimum size limit of 320 mm. A bag limit of 20 fish and a possession limit of 30 fish (Sand and Tiger Flathead) is in place for recreational fishers.

Tasmania – Indigenous (Management methods) 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://dpipwe.tas.gov.au/Documents/Policy%20for%20Aboriginal%20tags%20and%20allotting%20an%20UIC.pdf>).

CATCH CHART



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

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