Tiger Flathead (2016)

Platycephalus richardsoni

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STOCK STATUS OVERVIEW

Jurisdiction	Stock	Fisheries	Stock status	Indicators
Commonwealth, New South Wales, Victoria, Tasmania	Southern Australia	ITF, OTF, SESSF (CTS), SESSF (GHTS), SF	Sustainable	Spawning stock biomass, fishing mortality

SESSF (CTS) Southern and Eastern Scalefish and Shark Fishery (Commonwealth Trawl Sector) (CTH), SESSF (GHTS) Southern and Eastern Scalefish and Shark Fishery (Gillnet Hook and Trap Sector) (CTH), OTF Ocean Trawl Fishery (NSW), SF Scalefish Fishery (TAS), ITF Inshore Trawl Fishery (VIC)

STOCK STRUCTURE

Tiger Flathead is endemic to Australia and distributed from northern New South Wales to western Victoria, including Tasmanian waters. There is some evidence of regional differences in physical characteristics, growth rates and spawning periods for Tiger Flathead, but biological stock structure has not been studied using genetic techniques. A single biological stock structure is assumed for management purposes[1].

Here, assessment of stock status is presented at the biological stock level—Southern Australian.

STOCK STATUS

Southern Australia

Tiger Flathead is primarily caught by the Commonwealth managed Southern and Eastern Scalefish and Shark Fishery, which took an average of 92 per cent of the total landed catch over the past decade (2006–15), with small catches from New South Wales (six per cent), Tasmania (one per cent) and Victoria (less than one per cent). Stock status classification reported here is based on stock assessments conducted for the Commonwealth fishery, which include reported state catches.

The most recent assessment[2] estimated spawning stock biomass in 2014 to be 50 per cent of the unfished (1915) level, above the target of 40 per cent and

well above the spawning biomass that supports maximum sustainable yield, (estimated to be 32 per cent of the unfished biomass). This assessment determined that good recruitment since the late-1980s has maintained the stock near the target, allowing recent recommended biological catches (RBC) to be set above the long-term average. The stock is not considered to be recruitment overfished[3].

The 2013 assessment also showed a notable increase in spawning biomass between 2010 and 2013[2]. Based on this assessment the RBC for 1 year was estimated at 3428 tonnes (t) a 3-year RBC was estimated at 3334 t and a 5-year RBC was estimated at 3252 t[4]. In 2014, the Shelf Resource Assessment Group recommended that flathead be managed under a 3-year multi-total allowable catch. As the second year of a 3-year multi-TAC, the 2015–16 TAC for Tiger Flathead in the Commonwealth was set at 2860 t[5]. After addition of TAC undercatch from the previous season, the Commonwealth TAC for 2015–16 was set at 3092 t[6]. The Commonwealth catch in the 2015–16 fishing season was 2909 t, six per cent under the TAC. The total Australian commercial catch of Tiger Flathead in 2015 was 3052.5 t (2894 t Commonwealth; 129 t New South Wales; 28 t Tasmania; 1.5 t Victoria), below the 3-year RBC. This level of fishing pressure is unlikely to cause the stock to become recruitment overfished[3].

On the basis of the evidence provided above, the Southern Australian biological stock is classified as a **sustainable stock**.

BIOLOGY

Tiger Flathead biology[7]

Species	Longevity / Maximum Size	Maturity (50 per cent)
Tiger Flathead	20 years; males 500 mm TL , females 600 mm TL	3 years; 300 mm TL

DISTRIBUTION

Distribution of reported commercial catch of Tiger Flathead

TABLES

Commercial Catch Methods	Commonwealth	New South Wales	Tasmania	Victoria
Danish Seine	✓	✓		✓
Demersal Gillnet	✓			
Demersal Longline	✓		✓	
Demersal Pair Trawl	✓			
Dropline	✓			
Gillnet			✓	
Hand Line, Hand Reel or Powered Reels			✓	
Line				✓
Mesh Net				✓
Otter Trawl	✓	✓		✓
Various			✓	

Fishing methods				
	Commonwealth	New South Wales	Tasmania	Victoria
Commercial				
Danish Seine	✓	✓		
Demersal Gillnet	✓			
Demersal Longline	✓			
Hand Line, Hand Reel or Powered Reels			✓	
Otter Trawl	✓	✓		✓
Various			✓	
Indigenous				
Hand Line, Hand Reel or Powered Reels		✓		
Recreational				
Hand Line, Hand Reel or Powered Reels		✓	✓	✓

Management Methods				
	Commonwealth	New South Wales	Tasmania	Victoria
Commercial				
Gear restrictions	✓	✓	✓	✓
Limited entry	✓	✓	✓	✓
Size limit		✓	✓	✓
Spatial closures	✓	✓	✓	✓
Total allowable catch	✓			
Trip limits		✓		
Indigenous				
Bag limits		✓		✓
Gear restrictions		✓		✓
Section 31 (1)(c1), Aboriginal cultural fishing authority		✓		✓
Size limit		✓		✓
Spatial closures		✓		✓
Recreational				
Bag limits		✓	✓	✓
Gear restrictions		✓	✓	✓
Size limit		✓	✓	✓
Spatial closures		✓		✓

Active Vessels				
	Commonwealth	New South Wales	Tasmania	Victoria
	49 License in SESSF (CTS),	33 License in OTF,	16 Vessel in SF,	7 Fisher in ITF,

SESSF (CTS) Southern and Eastern Scalefish and Shark Fishery (Commonwealth Trawl Sector)(CTH)

OTF Ocean Trawl Fishery(NSW)

SF Scalefish Fishery(TAS)

ITF Inshore Trawl Fishery(VIC)

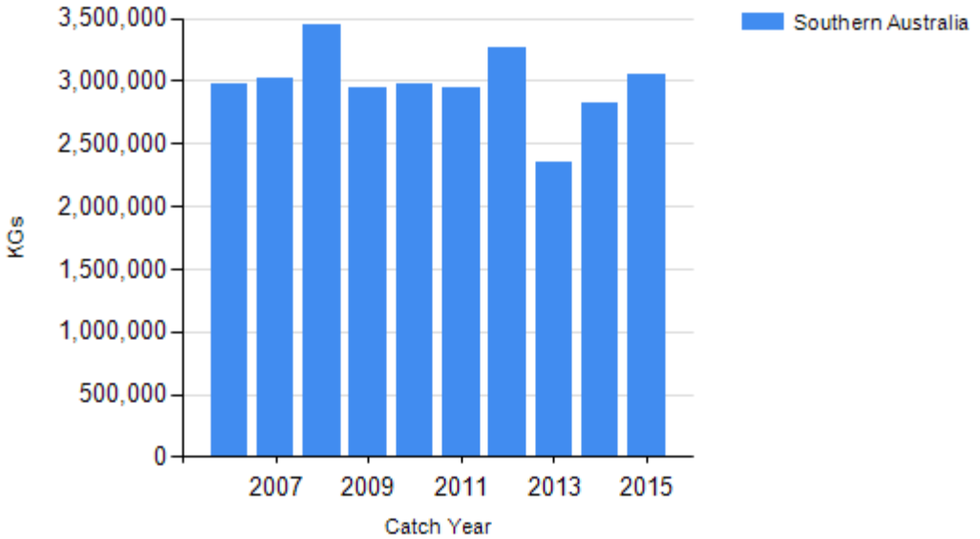
Catch				
	Commonwealth	New South Wales	Tasmania	Victoria

Commercial	2894.36t in SESSF (CTS), 6.2254t in SESSF (GHTS),	128.721t in OTF,	28.1005t in SF,	1.512t in ITF,
Indigenous		Unknown	Unknown	Unknown
Recreational		39 000 fish (2013–14)	12 t (2012–13)	Unknown

SESSF (CTS) Southern and Eastern Scalefish and Shark Fishery (Commonwealth Trawl Sector) (CTH), SESSF (GHTS) Southern and Eastern Scalefish and Shark Fishery (Gillnet Hook and Trap Sector) (CTH), OTF Ocean Trawl Fishery (NSW), SF Scalefish Fishery (TAS), ITF Inshore Trawl Fishery (VIC),

a Commonwealth Data provided for the Commonwealth align with the Commonwealth Southern and Eastern Scalefish and Shark Fishery 2015–16 fishing season (1 May 2015–30 April 2016).
b New South Wales, Victoria and Tasmania Data provided for New South Wales, Tasmania and Victoria align with the 2015 calendar year.
c Commonwealth – Recreational The Australian Government does not manage recreational fishing in Commonwealth waters. Recreational fishing in Commonwealth waters is managed by the state or territory immediately adjacent to those waters, under its management regulations.
d 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]) 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 Tiger Flathead.
e Commonwealth – Indigenous The Australian Government does not manage non-commercial Indigenous fishing in Commonwealth waters, with the exception of the Torres Strait. In general, non-commercial Indigenous fishing in Commonwealth waters is managed by the state or territory immediately adjacent to those waters.
f New South Wales – Indigenous (management methods) The Aboriginal Cultural Fishing Interim Access Arrangement allows an Aboriginal fisher in New South Wales to take in excess of a recreational bag limit in certain circumstances, for example, if they are doing so to provide fish to other community members who cannot harvest themselves.
g New South Wales – Indigenous (management methods) The Aboriginal cultural fishing authority is the authority that Indigenous persons can apply to take catches outside the recreational limits under the Fisheries Management Act 1994 (NSW), Section 37 (1)(c1), Aboriginal cultural fishing authority.

CATCH CHART



Commercial catch of Tiger Flathead - note confidential catch not shown

EFFECTS OF FISHING ON THE MARINE ENVIRONMENT

- There is bycatch in the fish trawl sector. In 2006, mandatory requirements for otter trawls to use 90 mm square-mesh codend panels were introduced in an effort to reduce the catch of small species and juvenile fish[10].
- Interactions also occur with animals protected under the *Environment Protection and Biodiversity Conservation Act 1999*, including marine mammals (dolphins, seals and sea lions), seabirds, some shark species and seahorses and pipefish (syngnathids). These interactions are reported quarterly by the Australian Fisheries Management Authority[11] and on-board observer programs are used to validate the reporting in commercial logbooks.
- In 2007, the South East Trawl Fishing Industry Association released an industry code of practice that aims to minimise interactions with fur seals, as well as addressing the environmental impacts of the fishery more generally[12]. Operators have developed other mitigation protocols that have further reduced seal mortalities, including: using breakaway ties that keep the net closed until it is below depths that seals regularly inhabit; adopting techniques to close the trawl opening during recovery to minimise opportunities for seals to enter the net; switching off gantry lights that are not required during night trawling to avoid attracting bait species and seals; and dumping offal only when the boat is not engaged in deploying or hauling gear[12].
- The Australian Fisheries Management Authority mandated individual vessel seabird management plans[13]. The seabird action plans are used in the Southern and Eastern Scalefish and Shark Fishery (Commonwealth Trawl Sector) (SESSF [CTS]) to mitigate the impacts of trawling on seabirds. From 1 May 2017, all vessels in the SESSF (CTS) and Southern and Eastern Scalefish and Shark Fishery (Great Australian Bight Trawl Sector) (SESSF [GABTS]) fisheries must use one of the following mitigation devices: sprayers; bird bafflers; or pinkies with zero discharge of fish waste[14].
- The effects of trawl fishing on the marine environment are assessed through an environmental risk assessment and risk management framework and mitigated through spatial closures, and the implementation of bycatch and discard workplans in the SESSF (CTS) and SESSF (GABTS) fisheries.
- Danish-seine and otter trawl gears interact with soft muddy or flat sandy substrates. An ecological risk assessment indicates that fishing operations on sandy substrates of the inner to mid shelf, where Tiger Flathead are targeted, do not present a high risk to habitats[15,16].
- Spiny Pipehorse can be taken as incidental bycatch in dredges, trawls, seines and crayfish pots[17]. An ecological risk assessment (ERA) into the effects of fishing from the Danish seine sub-fishery of the SESSF (CTS) indicated that the Spiny Pipehorse was at low risk because the fishery overlaps with only a small portion of the range of

this species[15]. An ERA into the effects of fishing from the Otter trawl sub-fishery of the SESSF (CTS) considers the spiny pipehorse to be high risk because of high exposure to fishing (high proportion of range within the fishery, live in habitats that are likely to encounter the gear, and are the right size to be selected by the fishery)[16].

- Discarding of quota species can be significant in some parts of the Commonwealth Trawl Sector. However, discard rates for Tiger Flathead are low, generally around five per cent[18].

ENVIRONMENTAL EFFECTS on Tiger Flathead

- There is some speculation that past peaks in abundance of Tiger Flathead may have been linked to favourable, but undetermined, environmental conditions[19]. Recent strong recruitment of Tiger Flathead may have a similar environmental basis. However, the effect of long-term shifts in the marine environment, such as those associated with global climate change, cannot yet be predicted for the Tiger Flathead biological stock.

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