Teraglin (2023)

Atractoscion atelodus

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STOCK STATUS OVERVIEW

Jurisdiction	Stock	Stock status	Indicators
Queensland, New South Wales	Eastern Australia	Sustainable	Depletion estimates, Catch, Effort, CPUE, Size composition, Age composition, Fishing mortality

STOCK STRUCTURE

Teraglin (*Atractoscion atelodus*) is a distinct species that occurs only in eastern Australia, having formerly been known as *Atractoscion aequidens* which occurs around southern Africa from Angola to South Africa [Song et al. 2017]. Within Australia Teraglin is distributed from southern Queensland to Montague Island in New South Wales. Due to the limited latitudinal distribution along eastern-Australia, and influence of the prevailing southerly flowing Eastern Australian Current in distributing larvae across this area, Teraglin is considered to be a single biological stock in this region—the Eastern Australia biological stock.

STOCK STATUS

Eastern Australia

This cross-jurisdictional biological stock has components in Queensland and New South Wales. Within Queensland, Teraglin are caught off the south-east coast and they are a secondary target in the Rocky Reef Fishery (RRF). Since 2009–10 the Queensland commercial catch has demonstrated a downward trend, with less than a tonne reported in 2021–22. The status presented here for the entire biological stock has been established using evidence from both jurisdictions.

The stock was assessed in 2023 using data up to and including 2021–22 using a surplus production model fitted using the package CMSY+ [Froese et al. 2019]. The main data inputs included the reconstructed catch history (Queensland and

New South Wales combined), standardized catch rates, a range of initial depletion estimates, and parameters describing the resilience of the population, being the intrinsic growth rate (r) and carrying capacity (k) [Stewart and Hegarty 2023]. The model outputs estimated that in 2021–22 the biomass of Teraglin was at 0.32 (95% CI 0.20–0.46) of unfished levels [Stewart and Hegarty 2023]. The biomass depleted steadily from the 1970s to the early 2000s and has increased slightly since that time. Maximum Sustainable Yield (MSY) was estimated to be 154 t (95% CI 124–205 t). The above evidence indicates that the biomass of this stock is unlikely to be depleted and that recruitment is unlikely to be impaired.

Historical total harvest of Teraglin is challenging to reconstruct due to limited recreational catch data and that they were not listed on commercial logbooks in Queensland until 1997. Nevertheless, estimated total harvest during the 1970s, 80s and 90s were generally between 150 and 200 t per year [Stewart and Hegarty 2023], so potentially greater than the estimated MSY and causing the stock to decline. Recent harvests of Teraglin have been at historically low levels, with corresponding low levels of fishing effort [Stewart and Hegarty 2023]. Fishing mortality was estimated to be less than that to achieve MSY for approximately the last 15 years and in 2021–22 was estimated to be approximately 0.25 of FMSY with high confidence of being below FMSY [Stewart and Hegarty 2023]. In addition, Teraglin grow reasonably quickly and mature at a relatively small size and young age [Hegarty 2016], indicating potential for relatively rapid population growth following high recruitment events [Stewart et al. 2021]. The above evidence indicates that the current level of fishing mortality is unlikely to cause the stock to become recruitment impaired.

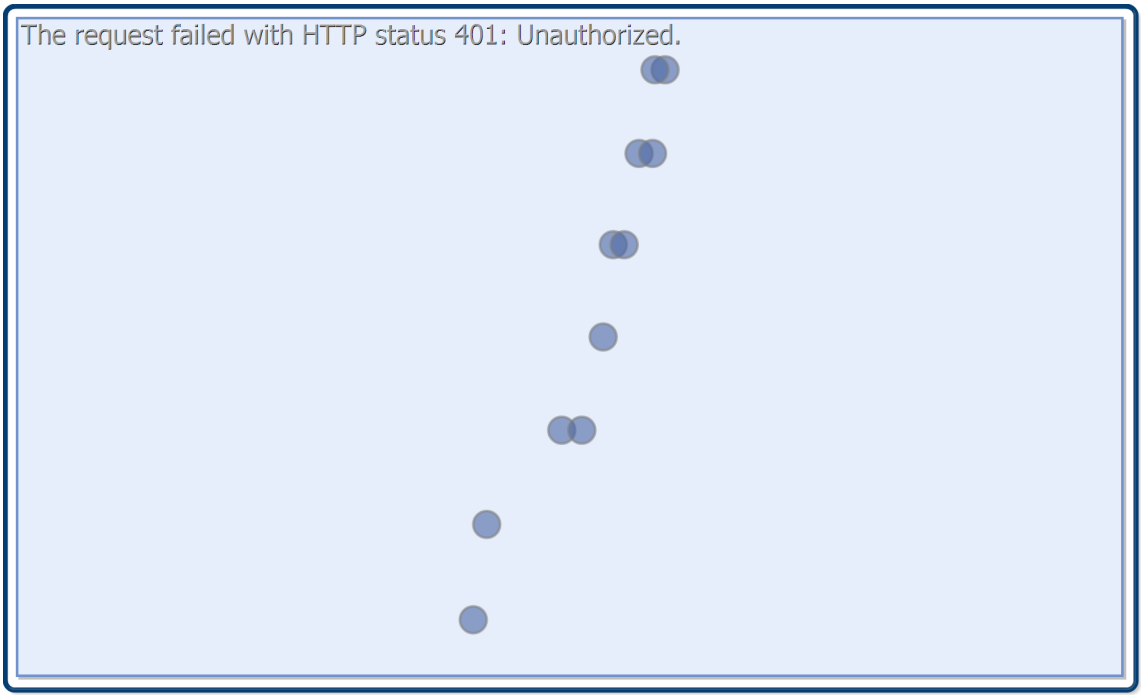
On the basis of the evidence provided above, the Eastern Australian biological stock is classified as a **sustainable stock**.

BIOLOGY

Teraglin biology [Hegarty et al. 2022; Hegarty et al. 2021; Hegarty 2016; Hutchins and Swainston 2006]

Species	Longevity / Maximum Size	Maturity (50 per cent)
Teraglin	14+ years, 1,000 mm TL	1–2 years, 360 mm FL

DISTRIBUTION



Distribution of reported commercial catch of Teraglin

TABLES

Fishing methods		
	New South Wales	Queensland
Charter		
Hand Line, Hand Reel or Powered Reels	✓	✓
Commercial		
Hook and Line	✓	
Line		✓
Otter Trawl	✓	
Various	✓	
Recreational		
Hand Line, Hand Reel or Powered Reels	✓	✓
Spearfishing	✓	✓

Management Methods		
	New South Wales	Queensland
Charter		
Bag/possession limits	✓	✓
Gear restrictions	✓	✓
License	✓	
Marine park closures	✓	
Seasonal or spatial closures		✓
Size limits	✓	✓
Spatial closures	✓	
Commercial		
Gear restrictions	✓	✓
Limited entry	✓	✓
Marine park closures	✓	
Seasonal or spatial closures		✓
Size limits	✓	✓
Spatial closures	✓	
Vessel restrictions	✓	✓
Recreational		
Bag and possession limits	✓	
Bag/possession limits		✓
Gear restrictions	✓	✓
License	✓	
Marine park closures	✓	
Seasonal or spatial closures		✓

Size limits	✓	✓
Spatial closures	✓	

Catch		
	New South Wales	**Queensland**
Charter		7 t (2020–21)
Commercial	6.82515 t	0.7948 t
Indigenous	Unknown	Unknown
Recreational	6,400 fish (2019–20)	Unknown

New South Wales – Recreational (Catch). Murphy et al. [2022].

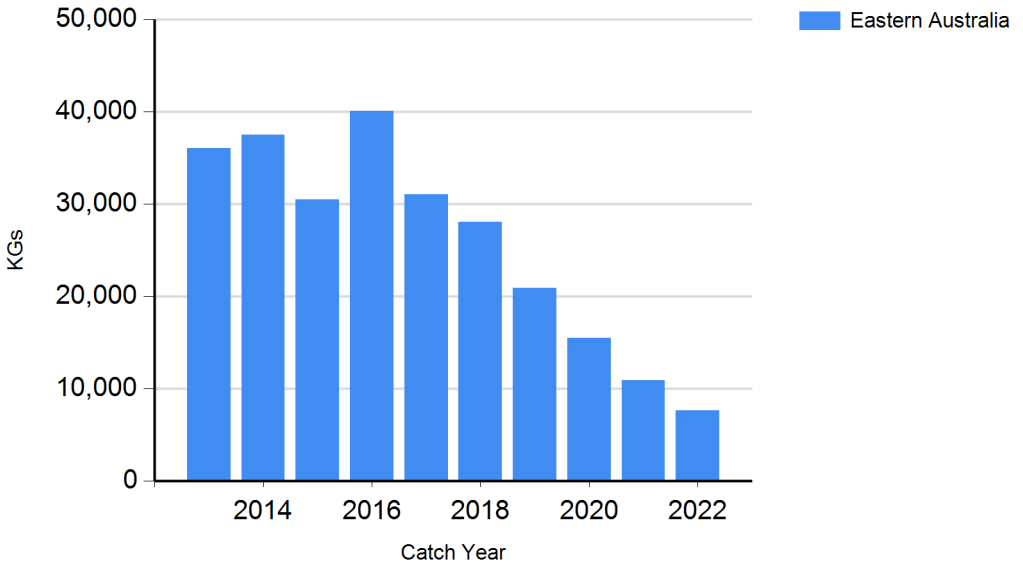
New South Wales – Indigenous (Management Methods). https://www.dpi.nsw.gov.au/fishing/aboriginal-fishing

Queensland – Indigenous (Management Methods). For more information see**:** https://www.daf.qld.gov.au/business-priorities/fisheries/traditional-fishing

Queensland – Commercial (Catch). Queensland commercial and charter data have been sourced from the commercial fisheries logbook program. Further information available through the Queensland Fisheries Summary Report: https://www.daf.qld.gov.au/business-priorities/fisheries/monitoring-research/data/queensland-fisheries-summary-report

Queensland – Recreational Fishing (Catch). Data with high uncertainty (Residual Error > 50%) have been excluded and listed as unknown. More information available at: https://www.daf.qld.gov.au/business-priorities/fisheries/monitoring-research/monitoring-reporting/statewide-recreational-fishing-surveys

CATCH CHART



Commercial catch of Teraglin

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