Pearl Perch (2023)

Glaucosoma scapulare

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STOCK STATUS OVERVIEW

Jurisdiction	Stock	Stock status	Indicators
Queensland, New South Wales	Eastern Australia	Depleted	Stock assessment, biomass, standardised catch rate, fishery-dependent length and age, catch and effort

STOCK STRUCTURE

The Pearl Perch (*Glaucosoma scapulare*) is a long-lived demersal species endemic to the central east coast of Australia. Pearl Perch generally form schools around submerged reefs, gravel, pinnacles and rough, rocky seabed in depths to at least 200 m [Campbell et al. 2023]. Pearl Perch have a limited distribution which extends from Rockhampton in Queensland (23°20'S) south to central New South Wales [Stewart et al. 2013]. Due to this limited distribution and influence of the prevailing southerly flowing Eastern Australian Current in distributing larvae across this area [Ridgway and Dunn 2003], Pearl Perch are considered to be a single biological stock [Stewart et al. 2015].

Here the assessment of stock status is presented at the biological stock level—Eastern Australia.

STOCK STATUS

Eastern Australia

The most recent integrated stock assessment for the Eastern Australia Pearl Perch stock (Queensland and New South Wales combined; including data up

until 2019) estimated spawning biomass had declined to 22% (base case; 14–46% range across scenarios), relative to unfished levels [Lovett et al. 2022]. This assessment produced slightly higher biomass estimates than the previous stock assessment [Sumpton et al 2017]; however, it also indicated a rapid and consistent decline in biomass from 2005. Standardised commercial catch rates in Queensland showed a declining trend between 1988 and 2019 [Lovett et al. 2022]. Standardised catch rates for Queensland are not available post 2019 to 2021–22, although nominal catch rates in the New South Wales line fishery have increased considerably since 2018–19.

Fishery-dependent monitoring in Queensland showed length frequencies in 2021 were dominated by fish within the first 15 cm above minimum legal size (380–520 mm), particularly in the recreational sector [QDAF 2023 Unpublished data]. In New South Wales, length-based monitoring of commercial landings showed a lower frequency of smaller fish (300–400 mm) in landings between 2011–12 and 2015–16, indicating poor recruitment to the fishery [Stewart 2020]. However, a pulse of just legal-sized Pearl Perch was detected in landings during 2016–17, signalling the start of a period of improved recruitment that has been observed each year to 2021–22 [Stewart 2020; NSW DPI Unpublished data]. Fishery-dependent age frequencies in Queensland waters showed no clear signs of strong recruitment throughout the monitoring period (2006– 21). Fishery-dependent monitoring in Queensland and New South Wales showed truncated commercial and recreational age frequencies with few older (10 years+) fish [Stewart 2011; Stewart et al. 2013; Stewart 2020; QDAF 2023 Unpublished data]. Although there are encouraging signals in New South Wales length monitoring data, indicating improved recruitment in recent years, there is no additional evidence to suggest the biomass of the Eastern Australia stock is recovering. The stock is therefore considered to be recruitment impaired.

Fishing mortality on the Eastern Australia stock of Pearl Perch was assessed as exceeding sustainable levels during the most recent stock assessment [Lovett et al. 2022]. Harvest reconstruction shows historical landings (between 1975 and 2010) exceeded the estimated maximum sustainable yield of 74 t from the stock [Lovett et al. 2022]. Since that time the combined harvest from Queensland and New South Wales has been at historically low levels, most recently 45 t in 2021–22. Commercial harvest from the southern component of the Queensland fishery (Fraser Offshore south) continues to decline by weight and proportion—from a peak of 70% in the last decade to 30% of the total commercial harvest in 2021–22. The commercial fishery in Queensland has expanded and shifted north, with the few older fish observed in monitoring coming from this region [QDAF 2023 Unpublished Data]. This spatial shift may be an indication that biomass has been subject to depletion in the traditional fishing grounds. In 2021–22, the Queensland charter sector harvest matched that taken by the commercial fleet. Estimates of the recreational harvest in Queensland decreased by number and increased by weight from 2013–14 (9,963 fish; estimated 11.3 t) to 2019–20 (9,048 fish; estimated 14.3 t) and catch rates increased over the same period [Webley et al. 2015; Teixeira et al. 2021]. In NSW recreational harvest estimates for Pearl Perch are not robust (i.e. low sample sizes and large standard errors) but may be around 9,000 fish per year [Murphy et al. 2020; Murphy et al. 2022].

In Queensland, active commercial fishing licences and fishing effort days in 2021–22 further reduced from the 2019 stock assessment and effort halved compared to the previous 10-year average. Fishing effort days in the Queensland charter sector also reduced by 25% from the previous 10-year average. In New South Wales the number of days reported when Pearl Perch were landed in both trap and line fisheries were at historically low levels

[Stewart 2020; NSW DPI Unpublished data]. In Queensland, from September 2019, attempts to reduce fishing mortality were introduced through an increased minimum legal size from 350 to 380 mm, a reduced recreational possession limit from five to four, a total allowable commercial catch limit established at 15 tonnes and a one month seasonal closure in July–August introduced. There is a minimum legal length of 300 mm total length and a recreational bag limit of five fish for Pearl Perch in New South Wales.

Despite changes to management arrangements to alleviate fishing mortality, evidence from the most recent stock assessment [Lovett et al. 2022] and relevant Management Strategy Evaluation [Campbell et al. 2021] suggest fishing mortality has not been reduced enough to support stock recovery . The current level of fishing mortality is expected to prevent the stock from recovering from its recruitment impaired state.

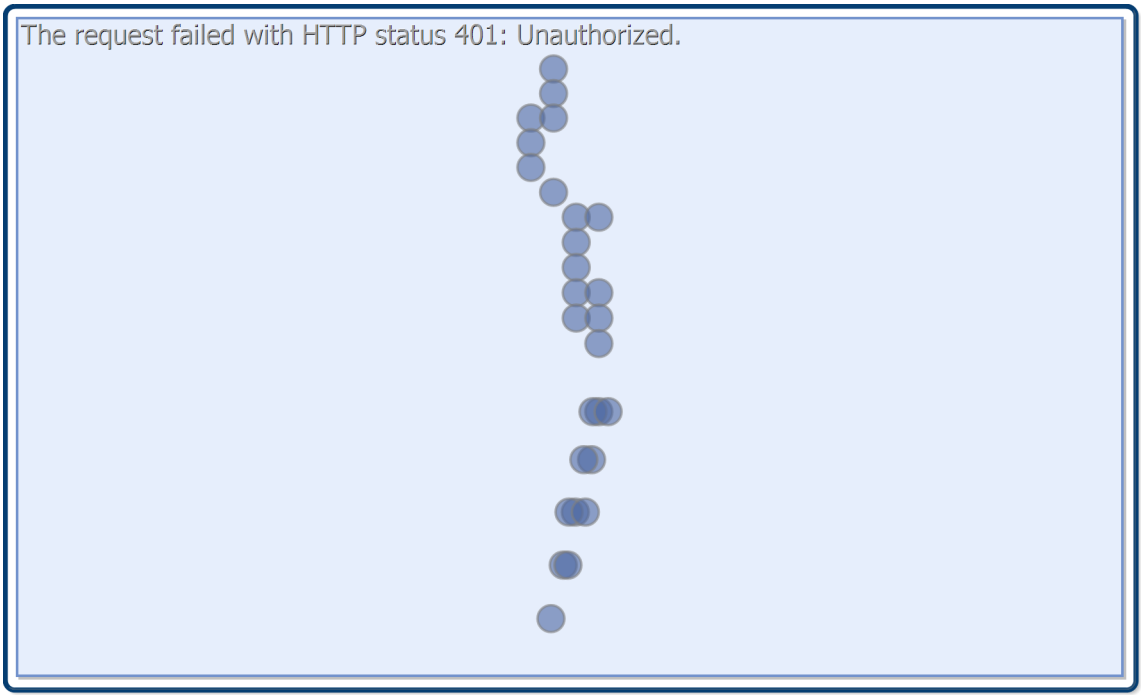
On the basis of the evidence provided above, the Eastern Australia biological stock is classified as a **depleted stock**.

BIOLOGY

Pearl Perch biology [McKay 1997, Sumpton et al. 2013, Campbell et al. 2022, Campbell et al. 2023]

Species	Longevity / Maximum Size	Maturity (50 per cent)
Pearl Perch	27 years, 700 mm TL, 7.3 kg	Females 4.42 years, 373 mm TL

DISTRIBUTION



Distribution of reported commercial catch of Pearl Perch

TABLES

Fishing methods		
	New South Wales	Queensland
Charter		
Hook and Line	✓	
Line		✓
Commercial		
Demersal Longline	✓	
Dropline	✓	
Fish Trap	✓	
Hook and Line	✓	
Line		✓
Various	✓	
Recreational		
Hook and Line	✓	
Line		✓
Spearfishing	✓	

Management Methods		
	New South Wales	Queensland
Charter		
Bag and possession limits	✓	
Bag limits	✓	
Gear restrictions	✓	✓
Licence	✓	
Marine park closures	✓	
Possession limit		✓
Processing restrictions		✓

Seasonal or spatial closures		✓
Size limit	✓	✓
Spatial closures	✓	
Commercial		
Gear restrictions	✓	✓
Limited entry	✓	✓
Marine park closures	✓	
Processing restrictions		✓
Seasonal or spatial closures		✓
Size limit	✓	✓
Spatial closures	✓	
Total allowable catch		✓
Vessel restrictions	✓	✓
Recreational		
Bag and possession limits	✓	
Bag limits	✓	
Gear restrictions	✓	✓
Licence	✓	
Marine park closures	✓	
Possession limit		✓
Processing restrictions		✓
Seasonal or spatial closures		✓
Size limit	✓	✓
Spatial closures	✓	

Catch		
	New South Wales	Queensland
Commercial	6.28107 t	8.52862 t
Indigenous	Unknown	Unknown
Recreational	7,508 fish retained in 2019–20	15.7 t in 2013–14

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

Queensland – Recreational (Catch). Data are based at the whole of Queensland level and derived from statewide recreational fishing surveys. Where possible, estimates have been converted to weight (tonnes) using best known conversion multipliers. Conversion factors may display regional or temporal variability. In the absence of an adequate conversion factor, data presented as number of fish.

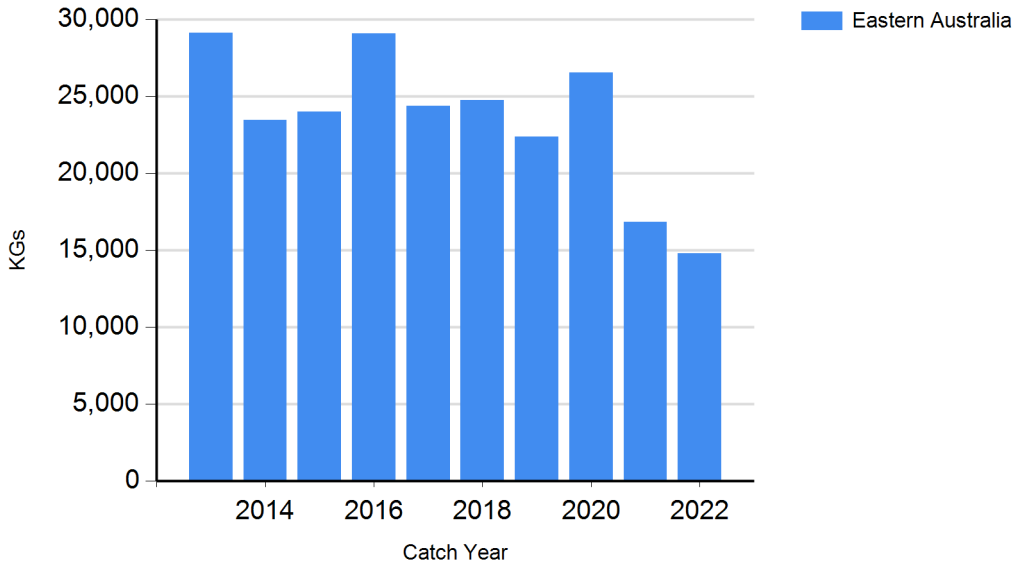
Queensland – Commercial and Charter (Catch). Queensland commercial and charter data have been sourced from the commercial fisheries logbook program. Further information is available through the Queensland Fisheries Summary Report https://www.daf.qld.gov.au/business-priorities/fisheries/monitoring-research/data/queensland-fisheries-summary-report

Queensland – Commercial (Management Methods). Harvest strategies are available at: https://www.daf.qld.gov.au/business-priorities/fisheries/sustainable/harvest-strategy

New South Wales – Recreational (Catch). Murphy et al. [2020] and Murphy et al. [2022]

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

CATCH CHART



Commercial catch of Pearl Perch - note confidential catch not shown

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