

John Dory (2020)

Zeus faber



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STOCK STATUS OVERVIEW

Jurisdiction	Stock	Stock status	Indicators
Commonwealth, Queensland, New South Wales, Victoria	South Eastern Australia	Sustainable	Catch, effort, fishing mortality
Western Australia	Western Australia	Negligible	
Northern Territory	Northern Territory	Negligible	

STOCK STRUCTURE

John Dory inhabits coastal and continental-shelf waters around most of Australia. The majority of the catch is taken along the eastern and southern coasts, with a small catch reported from the Northern Territory Timor Reef Fishery. The main distribution stretches from Moreton Bay in southern Queensland south and west to Cape Cuvier in Western Australia, with a limited distribution in eastern Bass Strait. John Dory are solitary as adults [Stergiou and Fourtouni 1991] and are reported to inhabit depths from 5 m to 360 m. Most of the catch is taken in 50–200 m depth, with over half of the catch is taken at 100–149 m depth [May 1986, Williams 1990 (both cited in Kailola et al. 1993), Staples 1995]. The stock structure of this species off Australia is poorly understood [Staples 1995]. Along the eastern and south eastern coasts, John Dory is considered to constitute a single biological stock for assessment and management purposes.

Here, assessment of stock status is presented at the biological stock level—South Eastern Australia, and at the jurisdictional level—Western Australia, Northern Territory.

STOCK STATUS

Northern Territory Stock status for the Northern Territory is reported as **Negligible** due to catches only being reported in 2014–18 in the Timor Reef Fishery. The maximum annual catch during this time was < 0.4 t and the stock has not been subject to

targeted fishing by any sector. Fishing is unlikely to be having a negative impact on the stock.

**South
Eastern
Australia**

This cross-jurisdictional stock has components in the Commonwealth, Queensland, New South Wales and Victoria. Status of the stock is based on the Commonwealth assessment given that: (i) the Commonwealth fishery dominates total fishing mortality and; (ii) the jurisdictions of New South Wales, Queensland and Victoria do not perform independent assessments for their minor components of this shared biological stock.

John Dory caught off the south east coast of Queensland are at the northern-most limit of their Australian east coast distribution [Kailola et al. 1993], although they do occur in limited quantities off northern Western Australia and the Northern Territory. In Queensland they are a non-target species incidentally harvested in net and line fisheries. Commercial catch of John Dory has been variable since 1992 with a peak catch of 23 tonnes (t) and 299 days effort in 1993, decreasing to 0.4t and 30 days effort in 2018-19 [QFISH 2020]. Since 2000, general reductions in licences and effort across fisheries has seen the overall catch and effort for John Dory decrease. The recreational harvest of John Dory is considered to be low with no reported catch in the most recent recreational fishing survey [Webley et al. 2015].

The annual commercial catch from New South Wales waters has been in the range 4.2-31.2 t over the last 10 years. Annual catches and effort associated with this byproduct species have declined in the Ocean Trawl Fishery (OTF) during recent years. The CPUE has been relatively stable. Catches from the New South Wales OTF represent a small fraction (approx. 5 per cent in 2018-19) of the total commercial catch of John Dory extracted annually from the South Eastern Australian stock, the total catch being dominated by the Commonwealth Southeast Scalefish and Shark Fishery (SESSF). In Victoria, the reportable catch not subject to confidentiality provisions (≥ 5 licences) totalled 1.1 t during the past two decades.

John Dory in Commonwealth fisheries was managed as a Tier 3 stock under the SESSF Harvest Strategy Framework [AFMA, 2019] for the 2019–20 fishing season. The 2017 Tier 3 analysis [Castillo-Jordan 2017] consists of a yield-per-recruit model and catch curve analysis. John Dory is managed to a target reference point that aims to maintain the spawning stock biomass at 40 per cent (0.40SB₀) of the unfished level (B₀). Catches of John Dory in Commonwealth fisheries averaged between 200 and 300 t from 1986 to 1995, peaking at 400 t in 1993. Catches have since decreased to below 100 t in recent years [Emery et al. 2020]

The Tier 3 analysis accounted for catches in zones 10–80 of the SESSF [Castillo-Jordan 2017], which comprise the Great Australian Bight trawl sector (GAB), the Commonwealth Trawl Sector (CTS) and the East Coast Deepwater Trawl Sector (ECDTS). Input data included selectivity-at-age, length-at-age, weight-at-age, age-at-maturity and natural mortality. The 2017 assessment included new ageing data from 2010 to 2016. Total mortality was estimated from catch curves constructed from length-frequency information.

The assessment estimated an equilibrium fishing mortality rate (FCURR) of 0.036, below the target fishing mortality reference point (F_{spr40} = 0.126) that

would achieve a target biomass of 0.4B0. There is no evidence to suggest that the stock has ever fallen below the target. Application of the Tier 3 harvest control rule to the outputs of the 2017 assessment, and using the 0.4SB0 target, generated an RBC of 485 t for the 2019–20 season [Castillo-Jordan 2017]. Sporcic & Haddon [2018] also analysed standardised CPUE for the stock. The results indicated that the CPUE for the John Dory stock in zones 10–20 had stabilised. However, it was noted that the age data used in the Tier 3 assessment conflicted with the CPUE data, so it was recommended that in 2020 a Tier 4 analysis (CPUE standardisation) be undertaken.

The FCURR was 0.036 in 2017, which was below the target F ($F_{spr40} = 0.126$) indicating that fishing mortality is at a level that would lead to a spawning biomass level above the target. The above evidence indicates that the biomass of this stock is unlikely to be depleted and that recruitment is unlikely to be impaired.

In the 2018/2019 financial year, the total landed catch (Commonwealth 69.7 t, Queensland 0.4 t, New South Wales 4.2 t; Victoria is confidential) was 74.3 t. Discards have been estimated to be 1.8 t based on the weighted average of the previous four calendar years (2015 to 2018) [Burch et al., 2019]. When combined this catch is below the RBC of 485 t calculated in the 2017 analysis. 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 South Eastern Australia biological stock is classified as a **sustainable stock**.

Western Australia

Stock status for John Dory in Western Australia is reported as **Negligible** due to historically low catches in this jurisdiction, and because the stock has generally not been subject to targeted fishing. The Western Australian commercial catch from 2008 to 2019 averaged less than 35 kg per annum, and John Dory is not a major component of recreational landings. Fishing is unlikely to be having a negative impact on the stock.

BIOLOGY

John Dory biology [Staples 1995]

Species	Longevity / Maximum Size	Maturity (50 per cent)
John Dory	12–15 years, 500–650 mm TL	3–5 years

DISTRIBUTION



Distribution of reported commercial catch of John Dory

TABLES

Fishing methods	Commonwealth	New South Wales	Northern Territory	Queensland	Victoria	Western Australia
Charter						
Hook and Line		✓		✓		
Rod and reel		✓				✓
Commercial						
Beach Seine						✓
Danish Seine	✓					
Demersal Gillnet	✓					
Demersal Longline	✓					
Gillnet						✓
Hand Line, Hand Reel or Powered Reels						✓
Haul Seine						✓
Net				✓	✓	
Otter Trawl	✓	✓				
Trawl	✓					
Unspecified			✓			
Various		✓				
Recreational						
Hook and Line		✓		✓	✓	

Rod and reel		✓				
Management Methods	Commonwealth	New South Wales	Northern Territory	Queensland	Victoria	Western Australia
Charter						
Bag and possession limits		✓				
Bag limits						✓
Gear restrictions		✓	✓			
Licence		✓				
License						✓
Limited entry			✓			✓
Marine park closures		✓		✓		✓
Possession limit			✓	✓		
Spatial closures			✓			
Temporal closures						✓
Commercial						
Catch limits			✓		✓	
Effort limits (individual transferable effort)						✓
Gear restrictions	✓	✓	✓	✓	✓	✓
Licence					✓	
License						✓
Limited entry	✓	✓	✓	✓	✓	✓
Marine park closures	✓	✓				
Mesh size regulations		✓				
Quota	✓					
Spatial closures	✓	✓	✓	✓	✓	✓
Temporal closures				✓		
Total allowable catch	✓					
Vessel restrictions		✓		✓		
Recreational						
Bag and possession		✓			✓	

limits						
Bag limits					✓	
Bag/possession limits						✓
Gear restrictions		✓	✓		✓	
Licence		✓			✓	
Licence (Recreational Fishing from Boat License)						✓
Marine park closures		✓		✓		
Possession limit			✓	✓		
Spatial closures			✓		✓	✓
Temporal closures						✓

Catch	Commonwealth	New South Wales	Northern Territory	Queensland	Victoria	Western Australia
Charter			0			
Commercial	71.7466 t	3.9936 t	0	0.4242 t	108.021 t	0.0576285 t
Indigenous		Negligible (2017-18)	Unknown	Unknown	Unknown (No catch under permit)	
Recreational		Negligible (2017-18)	0	Unknown		

Commonwealth – Commercial (Management Methods/Catch) Data provided for the Commonwealth align with the Commonwealth Southern and Eastern Scalefish and Shark Fishery for the 2018-19 financial year.

Commonwealth – Recreational The Commonwealth 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.

Commonwealth – Indigenous The Australian government does not manage non-commercial Indigenous fishing in Commonwealth waters, with the exception of Torres Strait. In general, non-commercial Indigenous fishing in Commonwealth waters is managed by the state or territory immediately adjacent to those waters

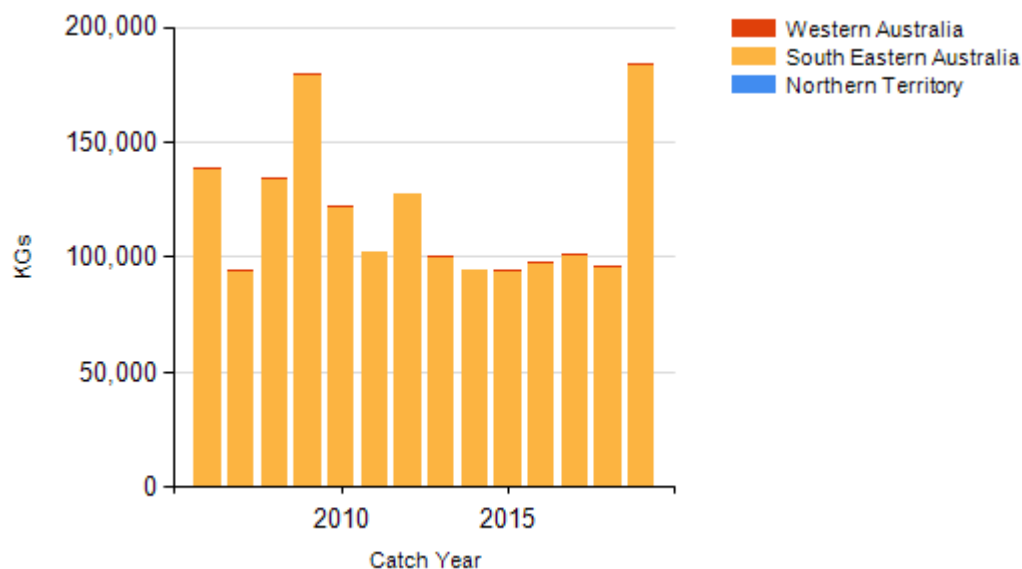
Queensland – Please refer to <https://www.daf.qld.gov.au/business-priorities/fisheries/traditional-fishing> for information on traditional fishing in Queensland

New South Wales Indigenous and Recreational catch estimates of “Negligible” are based on zero catches of John Dory recorded during the 2017-18 survey of the catch by 1-3 year NSW recreational licence holders [Murphy et al. 2020]

New South Wales - Indigenous Customary Fishing Management Arrangements. See <https://www.dpi.nsw.gov.au/fishing/aboriginal-fishing>

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*.

CATCH CHART



Commercial catch of John Dory - note confidential catch not shown

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