

John Dory (2018)

Zeus faber



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STOCK STATUS OVERVIEW

Jurisdiction	Stock	Fisheries	Stock status	Indicators
Commonwealth, Queensland, New South Wales, Victoria	South Eastern Australia	CRFFF, ITF, N/A, OTF, SESSF (CTS), SESSF (GABTS), SESSF (GHTS)	Sustainable	Catch, effort, fishing mortality
Western Australia	Western Australia	JASDGLMF, JASDGLMF SWTMF, SWTMF	Negligible	
Northern Territory	Northern Territory	TRF	Sustainable	Catch, SAFE

SESSF (CTS) Southern and Eastern Scalefish and Shark Fishery (Commonwealth Trawl Sector) (CTH), SESSF (GABTS) Southern and Eastern Scalefish and Shark Fishery (Great Australian Bight Trawl Sector) (CTH), SESSF (GHTS) Southern and Eastern Scalefish and Shark Fishery (Gillnet Hook and Trap Sector) (CTH), N/A Not Applicable (NSW), OTF Ocean Trawl Fishery (NSW), TRF Timor Reef Fishery (NT), LFR Line Fishery (Reef) (QLD), ITF Inshore Trawl Fishery (VIC), JASDGLMF Joint Authority Southern Demersal Gillnet and Demersal Longline Managed Fishery (Zone 1 & Zone 2) (WA), SWTMF South West Trawl Managed Fishery (WA), JASDGLMF || SWTMF Various Fisheries combined due to 3 boat rule (WA)

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 to Cape Cuvier in Western Australia, with a limited distribution in eastern Bass Strait. John Dory are solitary fish when adult [Stergiou and Fournouni 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

Small catches (< 0.4 t) are reported from the Northern Territory Timor Reef Fishery. Because John Dory are only an incidental catch in this fishery and not caught by recreational fishers due to their offshore distribution, a semi-quantitative sustainable assessment for fishing effects model (SAFE) [Zhou and Griffiths 2008] was used to assess the fishing mortality rate on this species, using data up to 2015. The model results indicated that there is a low risk of John Dory being overfished at current levels of harvest, as there is a very low overlap of the fisheries activity and their assumed distribution in Northern Territory waters. The above evidence indicates that the biomass of this stock is unlikely to be recruitment overfished; and that the current level of fishing pressure is unlikely to cause the stock to become recruitment overfished.

On the basis of the evidence provided above, John Dory in the Northern Territory is classified as a **sustainable stock**.

South Eastern Australia

This cross-jurisdictional stock has components in the Commonwealth, Queensland, New South Wales and Victoria. Each jurisdiction assesses that part of the biological stock that occurs in its waters. The status presented here for the entire biological stock has been established using evidence from all four jurisdictions

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 24 tonnes (t) and 311 days effort in 1993, decreasing to 1.5 t and 58 days effort in 2017 [QDAF 2018]. 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]. Queensland represents the smallest portion of commercial catch from the South Eastern Australian stock.

The annual commercial catch from New South Wales waters has been in the range 8.6–33.1 t over the last 11 years. Annual catches and effort associated with this byproduct species have declined in the OTF during recent years. The CPUE has been relatively stable. Catches from the New South Wales OTF represent a small fraction (approx. 10 per cent in 2017) 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 the Commonwealth SESSF, John Dory was assessed using a tier 3 assessment. The tier 3 assessment consisted of a yield-per-recruit model and catch curve analysis. The assessment accounted for catches along the geographic distribution of the SESSF including the south coast of New South Wales, Victoria and Great Australian Bight [Castillo-Jordán 2017]. The sectors within the fishery comprise the Great Australian Bight trawl sector (GAB), the Commonwealth Trawl Sector (CTS) and the Gillnet Hook and trap Sector (GHAT). 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 0.4B0 target, generated an RBC of 485 t for the 2018–19 season. The 2017–18 TAC however was 175 t [AFMA 2017]. The FCURR is 0.036 which is 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 2017, the total landed catch (Commonwealth, Queensland, New South Wales and Victoria combined) is 96.48 t, and the weighted average discards were 1.83 t, giving a total of 98.31 t, which is below the RBC of 203 t. 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. Western Australian commercial catch from 2008–17 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

Commercial Catch Methods	Commonwealth	New South Wales	Northern Territory	Queensland	Victoria	Western Australia
Danish Seine	✓					
Demersal Gillnet	✓					
Demersal Longline	✓					
Demersal Pair Trawl	✓					
Hook and Line					✓	
Midwater Trawl	✓					
N/A						✓
Net				✓	✓	
Otter Trawl	✓	✓	✓			
Trawl	✓					
Unspecified		✓				

Fishing methods	Commonwealth	New South Wales	Northern Territory	Queensland	Victoria
Charter					
Hook and Line		✓			
Rod and reel		✓			
Commercial					
Danish Seine	✓				
Demersal Gillnet	✓				
Net				✓	✓
Otter Trawl	✓	✓	✓		

Unspecified		✓			
Indigenous					
Hook and Line		✓			
Rod and reel		✓			
Recreational					
Hook and Line		✓			✓
Rod and reel		✓			
Management Methods					
	Commonwealth	New South Wales	Northern Territory	Queensland	Victoria
Charter					
Bag and possession limits		✓			
Bag limits		✓			
Gear restrictions		✓			
Licence		✓			
Marine park closures		✓			
Commercial					
Catch limits			✓		✓
Gear restrictions	✓	✓	✓	✓	✓
Individual transferable quota	✓				
Licence					✓
Limited entry	✓	✓	✓	✓	✓
Marine park closures		✓			
Mesh size regulations		✓			
Quota	✓				
Spatial closures		✓	✓	✓	✓
Temporal closures				✓	
Total allowable catch	✓				
Trip limits	✓				
Vessel restrictions		✓		✓	
Indigenous					
Bag limits		✓			
Customary					✓

fishing permits					
Native Title		✓			
Section 37 (1d)(3)(9), Aboriginal cultural fishing authority		✓			
Recreational					
Bag and possession limits		✓			✓
Bag limits		✓			✓
Gear restrictions		✓			✓
Licence		✓			✓
Marine park closures		✓			
Spatial closures					✓

Active Vessels	New South Wales	Northern Territory	Queensland	Victoria	Western Australia
	58 Fishing Business in OTF, 8 Fishing Business in OTLF,	5 LICENCES in TRF,	27 in CRFFF,	3 Licence Holders in ITF,	<3 in JASDGDMF, <3 in SWTMF, <3 in Charter,

OTF Ocean Trawl Fishery(NSW)

OTLF Ocean Trap and Line Fishery(NSW)

TRF Timor Reef Fishery(NT)

LFR Line Fishery (Reef)(QLD)

ITF Inshore Trawl Fishery(VIC)

JASDGDMF Joint Authority Southern Demersal Gillnet and Demersal Longline Managed Fishery (Zone 1 & Zone 2)(WA)

SWTMF South West Trawl Managed Fishery(WA)

Charter Tour Operator(WA)

Catch	Commonwealth	New South Wales	Northern Territory	Queensland	Victoria	Western Australia
Commercial	81.0453t in SESSF (CTS), 5.273t in SESSF (GABTS), 0.0613t in SESSF (GHTS),	0.153t in N/A, 8.49t in OTF,	0.44t in TRF,	1.4611t in CRFFF,		
Indigenous		Negligible (2013–14)		Unknown	Unknown (No catch under permit)	
Recreational		Nealiable		Unknown		

(2013–14)

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Commonwealth – Commercial (Management Methods/ Catch) Data provided for the Commonwealth align with the Commonwealth Southern and Eastern Scalefish and Shark Fishery for the 2017 calendar year.

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.

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.

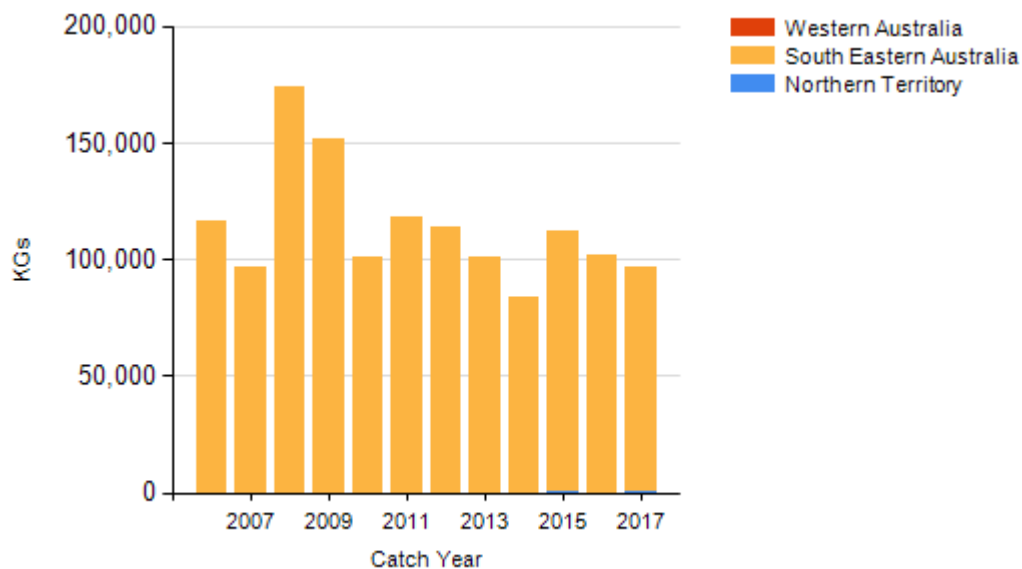
Queensland – Indigenous (management methods) Under the *Fisheries Act 1994* (Qld), Indigenous fishers in Queensland are entitled to use prescribed traditional and Non-commercial fishing apparatus in waters open to fishing. Size and possession limits, and seasonal closures do not apply to Indigenous fishers. Further exemptions to fishery regulations may be applied for through permits.

New South Wales Indigenous and Recreational catch estimates of “Negligible” are based on zero catches of John Dory recorded during the “Survey of Recreational Fishing in New South Wales and the Australian Capital Territory, 2013/14” (West et al. 2015)

New South Wales - Indigenous (a) The Aboriginal Cultural Fishing Interim Access Arrangement allows an Indigenous 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; (b) 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 27 (1d)(3)(9); and (c) In cases where the *Native Title Act 1993* (Cth) applies fishing activity can be undertaken by the person holding native title in line with S.211 of that Act, which provides for fishing activities for the purpose of satisfying their personal, domestic or non-commercial communal needs. In managing the resource where native title has been formally recognised, the native title holders are engaged with to ensure their native title rights are respected and inform management of the State's fisheries resources.

Victoria – Indigenous (Management Methods) In Victoria, regulations for managing recreational fishing may not apply to fishing activities by Indigenous people. Victorian traditional owners may have rights under the Commonwealth's *Native Title Act 1993* to hunt, fish, gather and conduct other cultural activities for their personal, domestic or non-commercial communal needs without the need to obtain a licence. Traditional Owners that have agreements under the *Traditional Owner Settlement Act 2010* (Vic) may also be authorised to fish without the requirement to hold a recreational fishing licence. Outside of these arrangements, indigenous Victorians can apply for permits under the *Fisheries Act 1995* (Vic) that authorise fishing for specific indigenous cultural ceremonies or events (for example, different catch and size limits or equipment). There were no indigenous permits granted in 2017 and hence no indigenous catch recorded.

CATCH CHART



Commercial catch of John Dory - note confidential catch not shown

EFFECTS OF FISHING ON THE MARINE ENVIRONMENT

ENVIRONMENTAL EFFECTS on John Dory

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