Western Rock Octopus (2023)

Octopus djinda

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STOCK STATUS OVERVIEW

Jurisdiction	Stock	Stock status	Indicators
Western Australia	Western Australia	Sustainable	CPUE Biomass

STOCK STRUCTURE

OcOctopus djinda (Subfamily Octopodinae), or the Western Rock Octopus, is endemic to the temperate waters of Western Australia from Shark Bay to Esperance. It is closely related to the cosmopolitan *Octopus vulgaris* species complex, and to *Octopus tetricus* on the east coast of Australia and New Zealand, but has been conclusively identified as a separate species through genetic and morphometric studies [Amor and Hart, 2021; Amor et al. 2014]. Here, assessment of stock status is presented at the biological stock level for Western Rock Octopus—Western Australia.

STOCK STATUS

Western Australia

Harvest of Western Rock Octopus in Western Australia is managed by a formal harvest strategy, as defined in the Octopus Resource of Western Australia Harvest Strategy 2018–22 [DPIRD 2018]. The main index of abundance is standardised catch per unit effort (CPUE) based on the catch rate of octopus from specialised traps [Hart et al. 2019]. The standardised catch per unit effort (CPUE) in the Western Rock Octopus fishery in 2022 was 0.73 kg/trap, which was 50% above the target of 0.48 kg/trap. Western Rock Octopus was subject to a comprehensive resource assessment which addressed biology, fishing efficiency and stock abundance and distribution [Hart et al. 2018]. The overall conclusion was that the stock is highly productive, with a maximum age of 1.5

years, as well as abundant and widely distributed along the west and south coast of Western Australia. The estimated area of fished habitat in 2022 was 3,572 km[2] and this was estimated to be around 18% of the habitat area on the West Coast of 20,073 km[2] [Hart et al. 2019]. The above evidence indicates that the biomass of this stock is unlikely to be depleted and that recruitment is unlikely to be impaired. The above evidence also indicates that the current level of fishing mortality is unlikely to cause the stock to become recruitment impaired.

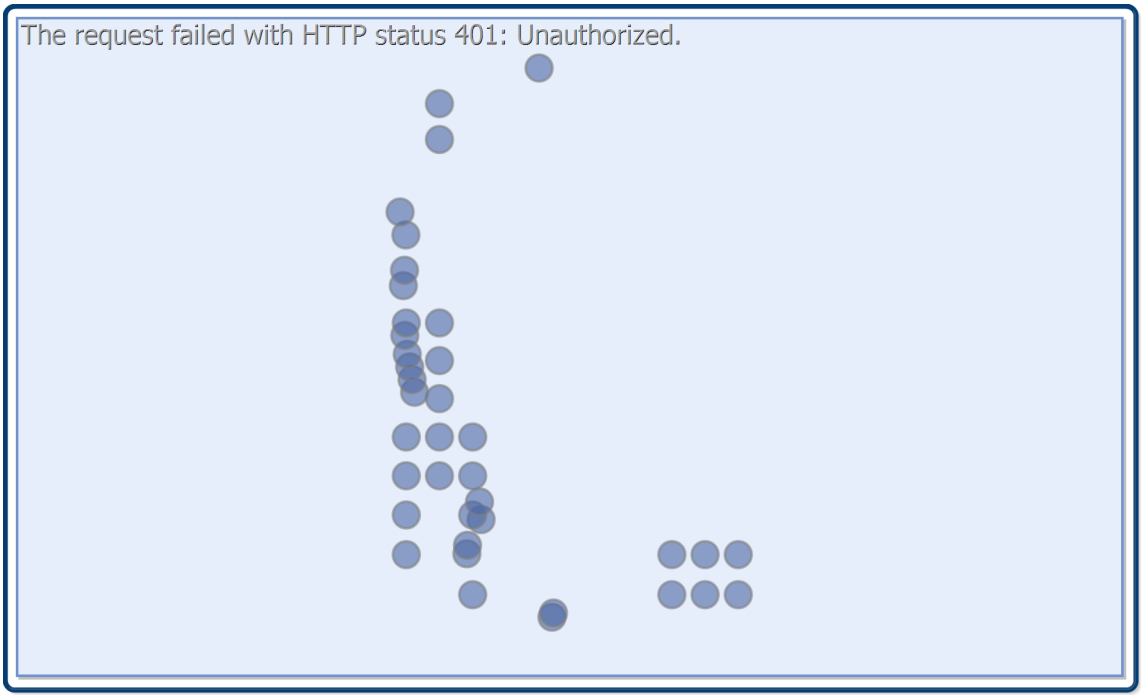
Based on the evidence provided above, the Western Australian Western Rock Octopus management unit is classified as a **sustainable stock**.

BIOLOGY

Octopus djinda (Subfamily Octopodinae), or the Western Rock Octopus, is endemic to the temperate waters of Western Australia from Shark Bay to Esperance. It is closely related to the cosmopolitan *Octopus vulgaris* species complex, and to *Octopus tetricus* on the east coast of Australia and New Zealand, but has been conclusively identified as a separate species through genetic and morphometric studies [Amor and Hart, 2021; Amor et al. 2014]. Here, assessment of stock status is presented at the biological stock level for Western Rock Octopus—Western Australia.

Species	Longevity / Maximum Size	Maturity (50 per cent)
Western Rock Octopus	Maximum age 1.5 years. Maximum recorded weight 4.5 kg	Males: mature at 6 months. Females: mature at 12 months

DISTRIBUTION



Distribution of reported commercial catch of Western Rock Octopus.

TABLES

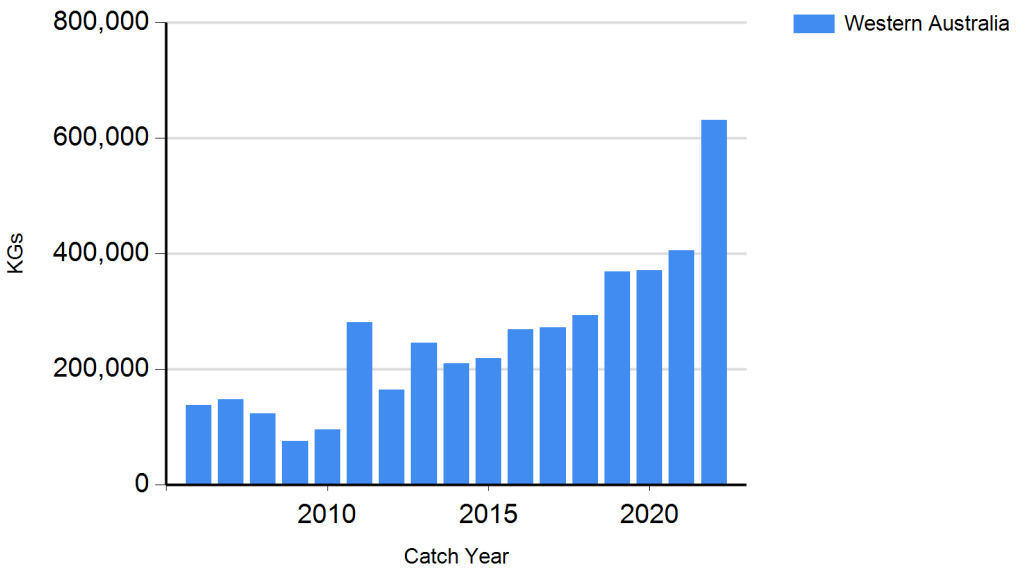
Fishing methods	
	Western Australia
Commercial	
Crab Trap	✓
Fish Trap	✓
Gillnet	✓
Octopus Traps And Pots	✓
Otter Trawl	✓
Squid Jigging	✓
Traps and Pots	✓
Recreational	
Pots and Traps	✓

Management Methods	
	Western Australia
Commercial	
Effort limits	✓
Gear restrictions	✓
Limited entry	✓
Recreational	
Gear restrictions	✓

Catch	
	Western Australia
Charter	< 0.5 t
Commercial	631.474 t
Recreational	2 t

Western Australia - Recreational (Catch Volume) [Ryan et al. 2022].

CATCH CHART



Commercial catch of Western Rock Octopus - note confidential catch not shown.

References	
Amor et al. 2014	Amor, MD, Norman, MD, Cameron, HE and Strugnell, JM 2014, Allopatric speciation within a cryptic species complex of Australasian octopuses. PLoS One, 9: e98982–13.
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Amor and Hart 2021	Amor, MD and Hart, AM 2021, Octopus djinda (Cephalopoda: Octopodidae): a new member of the Octopus vulgaris group from southwest Australia. Zootaxa, 5061(1): 145-156
Ryan et al. 2022	Ryan, KL, Lai, EKM and Smallwood, CB 2022, Boat-based recreational fishing in Western Australia 2020/21, Fisheries Research Report No. 327 Department of Primary Industries and Regional Development, Western Australia. 221pp.