

Crystal Crab (2020)

Chaceon albus



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STOCK STATUS OVERVIEW

Jurisdiction	Stock	Stock status	Indicators
Western Australia	West Coast	Sustainable	Catch, catch rate, spatial extent

STOCK STRUCTURE

There is currently no information on the stock structure of crystal crab. A larval duration of 39 days reported for a congeneric Atlantic Ocean species [Perkins 1973] and preliminary movement information [Melville-Smith et al. 2007] suggest little potential mixing. However, as the majority of the catch (>95 per cent) comes from a small geographic area, it is considered a single stock for the purpose of this assessment. A research project has commenced to examine the genetic stock structure of crystal crabs from the west and south coasts of Western Australia. Here the assessment is presented at the biological stock level—West Coast (Western Australia).

STOCK STATUS

West Coast The stock status for crystal crab (*Chaceon albus*) is based on a weight of evidence approach using a range of empirical and modelled estimates of catch and catch rate. Annual assessments are undertaken which have been reviewed by the Marine Stewardship Council (MSC) since 2015.

The most recent stock assessment shows that the Crystal Crab total allowable catch (TAC) (154 tonnes (t)) on the west coast was achieved with a standardised catch rate (sCPUE; 1.72 kg / pot lift) above the threshold reference point of 1.66 kg / pot lift. There has been an increasing trend in the spatial extent of the fishery which, coupled with a low sCPUE, indicates that the stock may be subject to heavy fishing pressure. Additionally, there are a range of protections including protection of berried females and female maturation below the legal minimum size, which provide additional protection to the breeding stock.

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.

On the basis of the evidence provided above, the West Coast Crystal Crab is classified as a **sustainable stock**.

BIOLOGY

[Smith et al. 2004, Melville-Smith et al. 2007]

Species	Longevity / Maximum Size	Maturity (50 per cent)
Crystal Crab	25–30 years	90.5 mm carapace length (females)

DISTRIBUTION



Distribution of reported commercial catch of Crystal Crab

TABLES

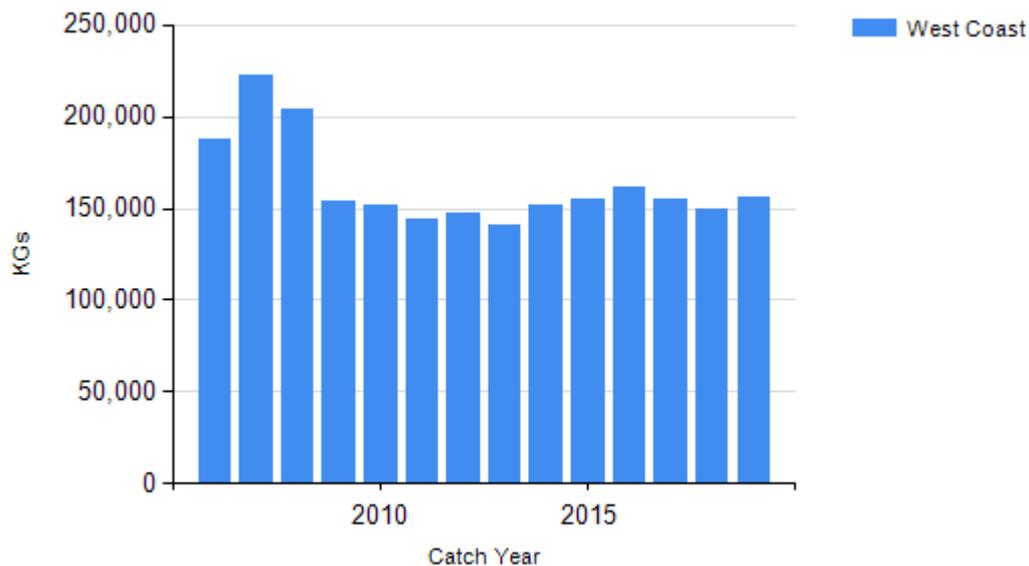
Fishing methods	
	Western Australia
Commercial	
Traps and Pots	✓

Management Methods	
	Western Australia
Commercial	

Area closures	✓
Egg bearing females protected	✓
Gear restrictions	✓
Limited entry	✓
Size limit	✓
Total allowable catch	✓

Catch	
	Western Australia
Commercial	155.946 t

CATCH CHART



Commercial catch of Crystal Crab

References	
Perkins (1973)	The larval stages of the deep sea red crab, <i>Geryon quinquedens</i> Smith, reared under laboratory conditions (Decapoda: Brachyrrhyncha) Fishery Bulletin. 71(1) 69-82.
Melville-Smith et al. [2007]	Melville-Smith, R., Norton, S.M.G. and Thomson, A.W. (2007). Biological and Fisheries Data for Managing Deep Sea Crabs in Western Australia Final report to Fisheries Research and Development Corporation on Project No. 2001/055. Fisheries Research Report No. 165, Department of Fisheries, Western Australia, 248p.

Smith et al. [2004]	Smith, KD, Potter, IC, Hesp, SA (2004). Comparisons between the reproductive biology of females of two species of deep sea crabs that live in different water depths. Journal of Shellfish Research 23:887-896
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