

# Western Rock Lobster (2018)

*Panulirus cygnus*



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## STOCK STATUS OVERVIEW

Jurisdiction	Stock	Fisheries	Stock status	Indicators
Western Australia	West Coast Rock Lobster Managed Fishery	SCCMF, SCCMF    WCRLMF, WCRLMF	Sustainable	Catches, catch rate, recruitment, egg production, harvest rate

SCCMF South Coast Crustacean Managed Fishery (WA), WCRLMF West Coast Rock Lobster Managed Fishery (WA), SCCMF || WCRLMF Various Fisheries combined due to 3 boat rule (WA)

## STOCK STRUCTURE

Western Rock Lobster is a single biological stock, with a distribution along the mid–lower west coast of Western Australia [Kennington et al. 2013], with most of the stock (> 95 per cent) being accessed by the West Coast Rock Lobster Managed Fishery (WCRLMF). As such the assessment of stock status is presented at the biological stock level—West Coast Rock Lobster Managed Fishery (Western Australia).

## STOCK STATUS

**West Coast Rock Lobster Managed Fishery** The stock status for Western Rock Lobster (*Panulirus cygnus*) is determined using a weight of evidence approach based on empirical and modelled estimates of a range of indices, including catches, catch rates, recruitment, egg production and harvest rate [de Lestang et al. 2012, de Lestang et al., 2016]. The stock assessment process is reviewed annually as part of the Marine Stewardship Certification (MSC <https://fisheries.msc.org/en/fisheries/australian-western-rock-lobster/>) process and intermittently by international stock assessment experts (e.g. de Lestang et al. 2012; de Lestang et al. 2019).

The most recent assessment shows that catches in the West Coast Rock Lobster Managed Fishery (Western Australia) have increased slightly over the past few seasons due to small increases in quota and an increase in recreational catch however, they remain 60 per cent lower than the historical average level of catch. Standardised commercial catch rates indicate that biomass has increased in recent years and is now over three-times greater than under input controls. Under current exploitation rates, catch rates are predicted to remain stable or increase. The Integrated Population Model (IPM) indicates that catch rates in all

locations of the fishery will continue to increase with a continuation of fishing at similar or slightly higher total allowable commercial catches (TACCs) than in the recent past.

Puerulus (post-larval lobsters) monitoring indicates that the current settlement levels are slightly below the historic average. The IPM suggests that this is sufficient to maintain/increase stock abundance at current harvest levels. The IPM currently indicates that the fishery is operating at harvest rates of between 20–30 per cent and these will continue to decline at current or slightly higher TACCs. Fishery-independent egg production indices at all sites are well above long-term levels and above threshold reference levels. These indices indicate high levels of spawning stock exist throughout the fishery. The IPM indicates that the biomass and egg production in all locations of the fishery is currently at the highest levels recorded since the mid-1970s, and that a continuation of fishing at similar or slightly higher TACCs will continue to result in increasing biomass and catch rates.

The above evidence indicates that the biomass of this stock is unlikely to be depleted and that recruitment is unlikely to be impaired. Furthermore, 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 Rock Lobster Managed Fishery (Western Australia) biological stock is classified as a **sustainable stock**.

## BIOLOGY

**Western Rock Lobster biology** [de Lestang et al. 2012]

Species	Longevity / Maximum Size	Maturity (50 per cent)
Western Rock Lobster	20+ years, > 150 mm CL	5–7 years, 65–80 mm CL, depending on location

## DISTRIBUTION



Distribution of reported commercial catch of Western Rock Lobster

**TABLES**

<b>Commercial Catch Methods</b>	<b>Western Australia</b>
Traps and Pots	✓

<b>Fishing methods</b>	<b>Western Australia</b>
<b>Commercial</b>	
Traps and Pots	✓
<b>Indigenous</b>	
Diving	✓
Rock Lobster And Crayfish Traps And Pots	✓
<b>Recreational</b>	
Diving	✓
Rock Lobster And Crayfish Traps And Pots	✓

<b>Management Methods</b>	<b>Western Australia</b>
<b>Commercial</b>	
Gear restrictions	✓
Limited entry	✓
Size limit	✓
Spatial closures	✓
Total allowable catch	✓
<b>Indigenous</b>	
Bag limits	✓
Gear restrictions	✓
Size limit	✓
<b>Recreational</b>	
Bag and possession limits	✓
Gear restrictions	✓

<b>Size limit</b>	✓
<b>Spatial closures</b>	✓
<b>Temporal closures</b>	✓
<b>Active Vessels</b>	
	<b>Western Australia</b>
	4 in SCCMF, 234 in WCRLMF, 39 in Charter,

**SCCMF** South Coast Crustacean Managed Fishery (WA)

**WCRLMF** West Coast Rock Lobster Managed Fishery(WA)

**Charter** Tour Operator(WA)

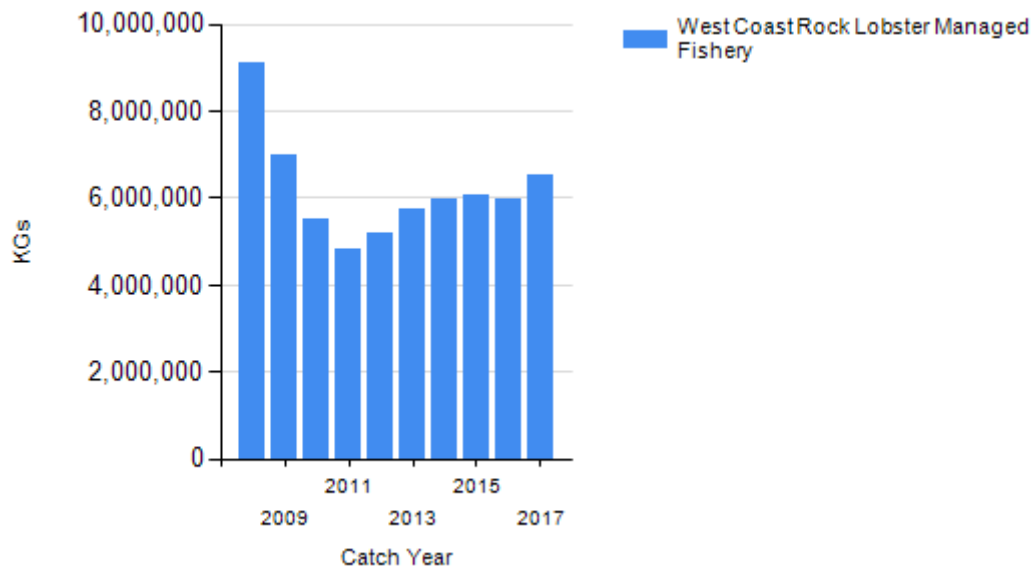
<b>Catch</b>	
	<b>Western Australia</b>
<b>Charter</b>	6.42 t in Tour Operator
<b>Commercial</b>	6548.4t in SCCMF    WCRLMF,
<b>Indigenous</b>	Unknown
<b>Recreational</b>	456 t

SCCMF South Coast Crustacean Managed Fishery (WA), WCRLMF West Coast Rock Lobster Managed Fishery (WA), SCCMF || WCRLMF Various Fisheries combined due to 3 boat rule (WA),

**Western Australia – Commercial (catch)** The commercial fishing season spans 15 January 2017–14 January 2018. Catches have been presented in this report by calendar year.

**Western Australia – Indigenous (catch)** (a) The recreational fishing season spans 15 October 2016–30 June 2017; (b) Subject to the defence that applies under section 211 of the *Native Title Act 1993* (Cth), and the exemption from a requirement to hold a recreational fishing licence, the non-commercial take by Indigenous fishers is covered by the same arrangements as that for recreational fishing.

## CATCH CHART



Commercial catch of Western Rock Lobster - note confidential catch not shown

## EFFECTS OF FISHING ON THE MARINE ENVIRONMENT

### ENVIRONMENTAL EFFECTS on Western Rock Lobster

References	
782	de Lestang, S, Caputi, N, How, J, Thomson, A and Stephenson, P 2012, Stock assessment for the West Coast Rock Lobster Fishery, Fisheries Research Report 217, Western Australian Department of Fisheries, Perth.
783	de Lestang S, Caputi N and How J 2016, Western Australian Marine Stewardship Council Report Series No. 9: Resource Assessment Report: Western Rock Lobster Resource of Western Australia. Department of Fisheries, Western Australia.
784	de Lestang, S, How, J, Caputi, N, Tuffley, E and Rossbach, M 2019. Summary of the West Coast Rock Lobster Managed Fishery Science and Modelling Review, Fisheries Research Report 295, Western Australian Department of Fisheries, Perth.
785	Kennington, WJ, Cadee, SA, Berry, O, Groth, DM, Johnson, MS and Melville-Smith, R 2013. Maintenance of genetic variation and panmixia in the commercially exploited western rock lobster ( <i>Panulirus cygnus</i> ). Conservation Genetics, 14(1), pp.115–124.