

Southern Rock Lobster (2020)

Jasus edwardsii



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STOCK STATUS OVERVIEW

Jurisdiction	Stock	Stock status	Indicators
Western Australia, Victoria, Tasmania, South Australia	Southern Australia	Sustainable	Percentage of egg production relative to unfished level

STOCK STRUCTURE

Southern Rock Lobster is considered to be a single biological stock across southern Australia because the species occurs in a continuous distribution across this range and has extensive and protracted pelagic larval dispersal phase. The pelagic phyllosoma larval phase lasts around 12–18 months [Bruce et al. 2007]. Larval release occurs across the southern continental shelf, which is a high-current area, facilitating dispersal. Oceanographic modelling has also indicated that Southern Rock Lobster dispersal occurs over large spatial scales, indicating that there is a single biological stock [Bruce et al. 2007]. Genetic analyses also indicate that it is a single stock [Ovenden et al. 1992].

Here, assessment of stock status is presented at the biological stock level—Southern Australia.

STOCK STATUS

Southern Australia The most recent stock assessment reports [Hartmann et al. 2019, Linnane et al. 2020a,b, VFA 2020a] are used to inform the assessment of stock status and use data up to the end of the 2019–2020 fishing season. The same stock assessment model is used to analyse catch, effort and size structure data for separate areas across South Australia, Victoria and Tasmania [Punt and Kennedy 1997], whereas Western Australia bases its assessment on standardised catch rates. These spatial divisions are incorporated so that the assessment can take account of regional differences in growth, catchability, recruitment and other parameters. This modelling provides estimates of biomass and the closely related measure of egg production, which is used as the primary indicator of stock status. Egg production is the main indicator because it provides a direct measure of whether there is sufficient reproductive output to avoid risk of recruitment impairment. A limit reference point for egg production is applied

which is 20 per cent of the unfished level for the combined stock.

The combined outputs of the most recent assessments for each jurisdiction estimate that egg production in 2019–2020 was 24 per cent of the unfished level. The above evidence indicates that the biomass of this stock is unlikely to be depleted and that recruitment is unlikely to be impaired.

Fishing mortality is reviewed annually in each jurisdiction, with adjustments made in response to stock trends. The Western Australian fishery for Southern Rock Lobster occurs at the extreme of the range and the catch is minor at between 20 and 80 tonnes (t) and regulated via input controls. Production is mainly from South Australia, Victoria and Tasmania with fishing mortality regulated in each of these jurisdictions by total allowable catches (TAC). The commercial component of the TAC is managed by individual transferable quota systems with all catch recorded at the point of unloading. Recreational catch is substantially lower than commercial catch in each jurisdiction but is considered and incorporated in the process for regulating total catch in each state. The quantum of recreational catch is estimated using surveys and also tagging data in Victoria (VFA 2020b). Recreational catch and therefore fishing mortality, is mainly regulated using daily bag limit and season closures.

While the Southern Rock Lobster stock currently has egg production above the limit reference point of 20 per cent of unfished levels and fishing mortality managed to a level that indicates stock rebuilding will occur, there are aspects of the stock that are of concern. Importantly, while egg production has increased since the previous assessment, the stock remains close to the limit reference point. Conservative management action to rebuild stocks is required as indicated by: (i) the estimated level of egg production being close to the limit reference point (ii) larval dispersal modelling indicating that some areas are of greater importance for larval supply (source-sink dynamics) [Bruce et al. 2007], however, the identity of these areas remains poorly understood and therefore precautionary management should maintain high levels of egg production across the stock; (iii) levels of egg production in some areas of the stock are low, specifically the Southern Zone of South Australia (< 15 per cent) [Linnane et al. 2020a] and north western Tasmania (< 16 per cent) [Hartmann et al. 2019, IMAS 2020] (iv) the abundance of undersize lobsters is at or near record lows in some parts of the stock, specifically in the western and eastern zones of the Victorian fishery [VFA 2020a] (although high elsewhere such as western Tasmania and South Australia) [Hartmann et al. 2019, Linnane et al. 2020a] and (v) reduced catch and catch rates in Western Australia.

In response, total allowable commercial catches have been reduced across south-eastern Australia over the past decade to reduce fishing mortality so that biomass and catch rates in most areas are now increasing. The above evidence indicates that the current level of fishing mortality is unlikely to cause the stock to become recruitment impaired.

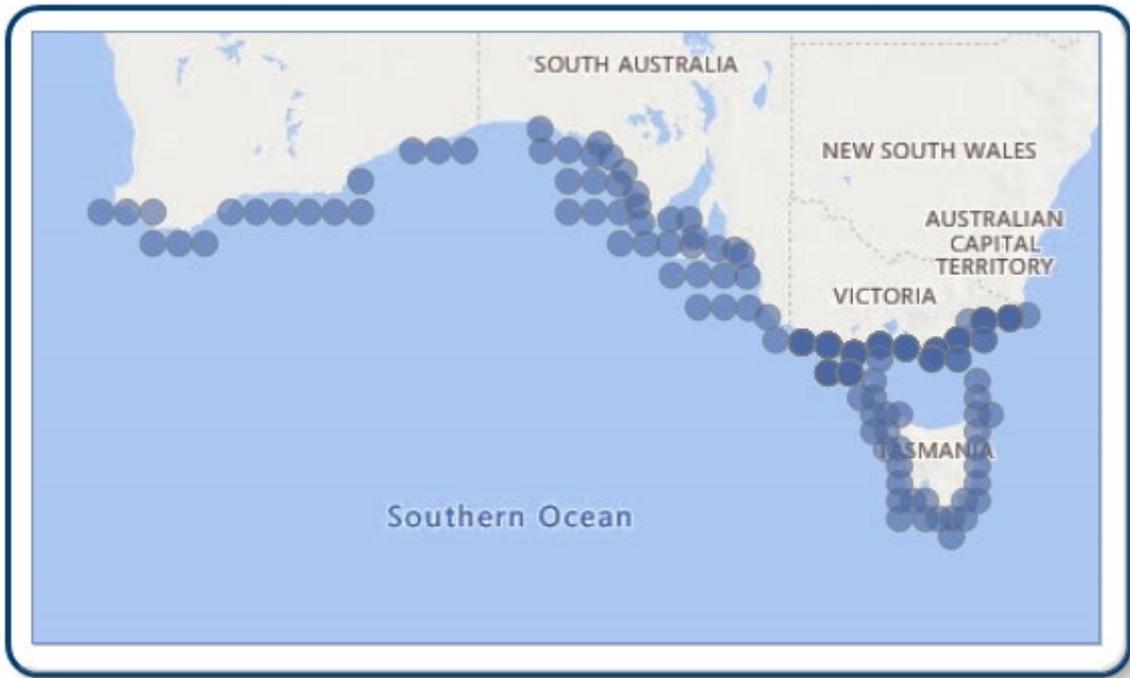
On the basis of the evidence provided above, the Southern Australia Southern Rock Lobster biological stock is classified as a **sustainable stock**.

BIOLOGY

Southern Rock Lobster biology [Hobday and Ryan 1997, Gardner et al. 2006, Linnane et al. 2008]

Species	Longevity / Maximum Size	Maturity (50 per cent)
Southern Rock Lobster	20+ years, > 200 mm CL	59–122 mm C L, depending on region

DISTRIBUTION



Distribution of reported commercial catch of Southern Rock Lobster

TABLES

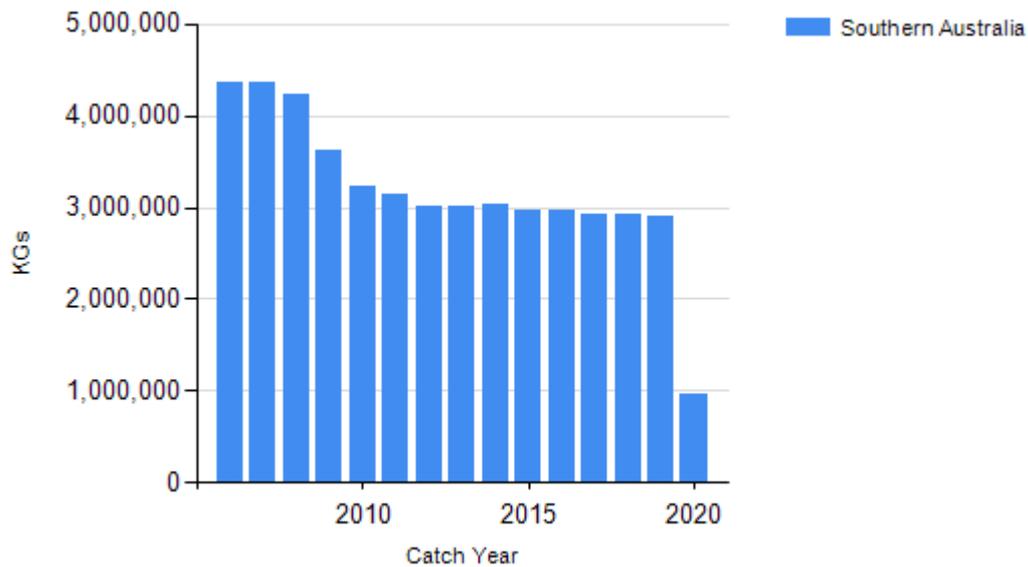
Fishing methods	South Australia	Tasmania	Victoria	Western Australia
Charter				
Traps and Pots				✓
Commercial				
Pots and Traps		✓		
Rock Lobster And Crayfish Traps And Pots	✓			
Traps and Pots			✓	✓
Recreational				
Coastal, Estuary and River Set Nets		✓		
Diving	✓	✓	✓	✓
Hoop Net	✓		✓	
Rock Lobster And Crayfish Traps And Pots	✓	✓		✓
Management Methods				

	South Australia	Tasmania	Victoria	Western Australia
Commercial				
Gear restrictions	✓	✓	✓	✓
Limited entry	✓	✓	✓	✓
Size limit	✓	✓	✓	✓
Spatial closures	✓	✓	✓	✓
Temporal closures	✓	✓	✓	✓
Total allowable catch	✓	✓	✓	
Recreational				
Bag limits	✓	✓	✓	✓
Gear restrictions	✓	✓	✓	✓
Size limit	✓	✓	✓	✓
Spatial closures	✓	✓	✓	✓
Temporal closures	✓	✓	✓	✓

Catch	South Australia	Tasmania	Victoria	Western Australia
Commercial	1539.45 t	1043 t	289.529 t	23.772 t
Indigenous	Unknown	Unknown	Unknown (No catch under permit)	Unknown
Recreational	75 t	72.3 t	12.5 t	< 5 t (2017/18)

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 Southern Rock Lobster - note confidential catch not shown

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IMAS, 2020	IMAS (2020), Wild Fisheries Assessments

