

# Royal Red Prawn (2018)

*Haliporoides sibogae*



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## STOCK STATUS OVERVIEW

| Jurisdiction                  | Stock                   | Fisheries        | Stock status | Indicators    |
|-------------------------------|-------------------------|------------------|--------------|---------------|
| Commonwealth, New South Wales | South Eastern Australia | OTF, SESSF (CTS) | Sustainable  | Catch, CPUE   |
| Queensland                    | Queensland              | ECOTF            | Undefined    | Catch, effort |

SESSF (CTS) Southern and Eastern Scalefish and Shark Fishery (Commonwealth Trawl Sector) (CTH), OTF Ocean Trawl Fishery (NSW), ECOTF East Coast Otter Trawl Fishery (QLD)

## STOCK STRUCTURE

Royal Red Prawn is widely distributed, occurring in depths of 350 m to 550 m in the Indian and western Pacific oceans. In Australia, the main geographic distribution is from Sydney on the east coast around southern Australia to Perth on the west coast, with some occurrence as far north as Moreton Bay, Queensland [Kailola et al. 1993]. Catches have been recorded off New South Wales, Queensland and Western Australia between latitudes 10°S and 36°S [ABARES 2018]. On the east coast, Royal Red Prawn is mainly distributed between 26°S and 36°S with few records at 40°S. Commercial catches are mainly taken between Sydney and Ulladulla [Rowling 1995]. Little is known of the stock structure in eastern Australia and the northern limit of the stock is unknown, but is considered to lie north of the current boundary of the fishery at Barrenjoey Point, 35° 35'S [Rowling 1995].

Off New South Wales, catches have been recorded between 275 m and 820 m, with most catches taken between 365 m and 550 m [Rowling 1995]. According to logbook catches from the Commonwealth Southeast Scalefish and Shark Fishery (SESSF) almost all the commercial catch was taken from 350 m to 550 m depth with 90 per cent of the catch from the 400 m to 499 m [Baelde 1995, Tilzey 1994]. There is evidence of a size related latitudinal distribution with larger prawns (spawners) towards the northern end of the range and juveniles (< 20 mm length) towards the south [Baelde 1992, Rowling 1995, Tilzey 1994,]. Royal Red Prawn have two spawning seasons each year, resulting in two annual recruitment pulses, in February-April and again in July-August [Tilzey 1994, Rowling 1995]. They are relatively slow growing and longer lived than shallow water penaeid prawns [Tilzey 1994].

Here, assessment of stock status is presented at the biological stock level—South Eastern Australia; and jurisdictional level—Queensland.

## STOCK STATUS

**Queensland** Royal Red Prawn occur in Queensland waters [Potter and Dredge 1895], although little is known about their distribution or potential biomass. The species has remained mostly unfished since 1991 with a peak catch of 30 t and 122 days effort in 1989, and little catch thereafter [QDAF 2018]. The commercial harvest of Royal Red Prawn only began again in 2016, but catch and effort remain low at 40 kg catch and two days effort in 2017 [QDAF 2018]. While the current level of fishing pressure is unlikely to cause the stock to become recruitment impaired, there is insufficient information available to confidently classify the status of this stock.

On the basis of the evidence provided above, Royal Red Prawn in Queensland is classified as an **undefined** stock.

**South Eastern Australia** Royal Red Prawn in Commonwealth fisheries are managed as a Tier 4 stock under the Southeast Scalefish and Shark Fishery (SESSF) harvest strategy using standardised CPUE analysis. The 2013 analyses undertaken by Haddon (2013), estimated a Recommended Biological Catch (RBC) of 392 tonnes (t) (AFMA 2017). In 2013 the RAG recommended a three year multi-year RBC of 393 t per year, which was extended for one year into the 2017–18 season after investigation of the recent data.

An updated CPUE analysis, by Haddon and Sporic [2017], indicated that the standardised CPUE for the recent four years to 2016 was varying around the target reference point. The RBC estimated by Haddon and Sporic [2017] was 430.8 t, somewhat higher than estimated in the 2013 assessment. Some concerns about using a standardized CPUE for this stock have been expressed because targeting of Royal Red Prawn is market driven [Morison et al. 2013], and such practices may influence CPUE. The above evidence indicates that the biomass of this stock is unlikely to be depleted and that recruitment is unlikely to be impaired.

For the 2017 calendar year the total landed catch in the SESSF (CTS) was 171 t, and the weighted average discards were 1.91 t. New South Wales catch data are considered to be confidential due to the small number of operators, but the sum of the landed catch (SESSF and New South Wales catch) and discards was well below the RBC of 393 t. The above evidence indicates that the current level of fishing mortality is unlikely to cause the stock to become recruitment impaired.

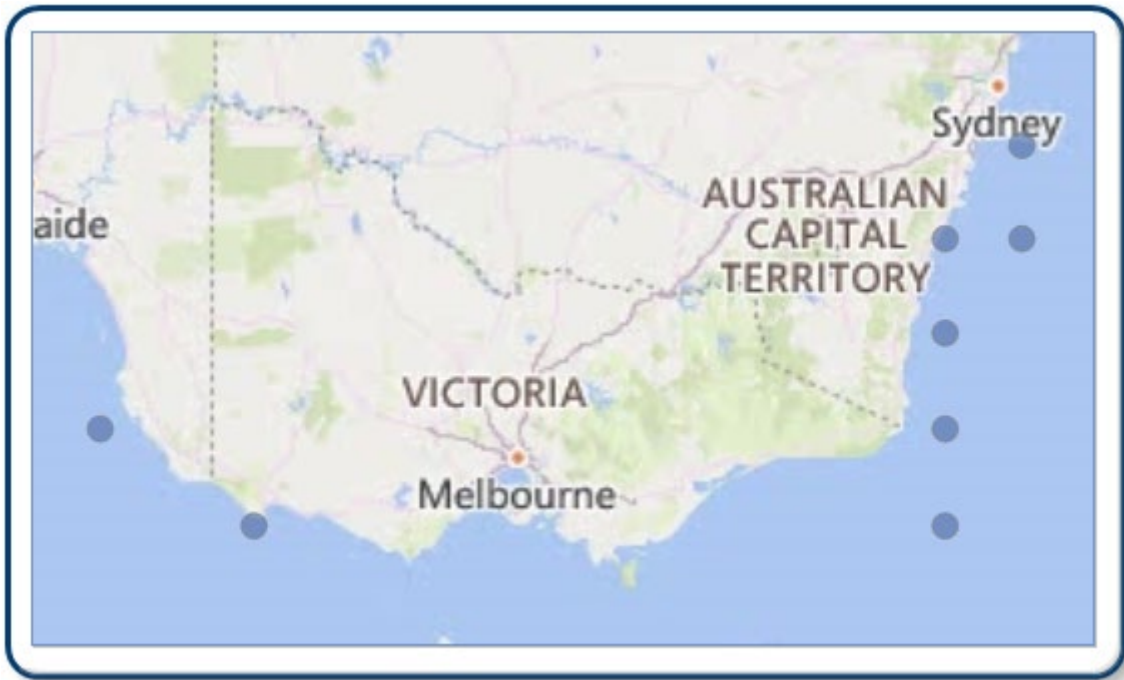
On the basis of the evidence provided above, the South Eastern Australia biological stock is classified as a **sustainable stock**.

## BIOLOGY

**Royal Red Prawn biology** [Baelde, 1994, Graham and Gorman 1985, Holthuis 1980, Kailola et al. 1993, Potter and Dredge 1985, Rowling 1995, Tilzey 1994]

| Species         | Longevity / Maximum Size  | Maturity (50 per cent)                            |
|-----------------|---|---|
| Royal Red Prawn | 3 – 4 years, Females: 200 mm TL, 49 mm CL<br>Males: 165 mm TL, 33.5 mm CL | Females 25 – 30.8 mm CL<br>Males: 21 – 25.8 mm CL |

## DISTRIBUTION



Distribution of reported commercial catch of Royal red Prawn

**TABLES**

| <b>Commercial Catch Methods</b> | <b>Commonwealth</b> | <b>New South Wales</b> | <b>Queensland</b> |
|---------------------------------|---------------------|------------------------|-------------------|
| Danish Seine                    | ✓                   |                        |                   |
| Otter Trawl                     | ✓                   |                        | ✓                 |
| Unspecified                     |                     | ✓                      |                   |

| <b>Fishing methods</b> | <b>Commonwealth</b> | <b>New South Wales</b> | <b>Queensland</b> |
|------------------------|---------------------|------------------------|-------------------|
| <b>Commercial</b>      |                     |                        |                   |
| Otter Trawl            | ✓                   |                        | ✓                 |
| Unspecified            |                     | ✓                      |                   |

| <b>Management Methods</b> | <b>Commonwealth</b> | <b>New South Wales</b> | <b>Queensland</b> |
|---------------------------|---------------------|------------------------|-------------------|
| <b>Commercial</b>         |                     |                        |                   |
| Area restrictions         |                     | ✓                      |                   |
| Effort limits             |                     |                        | ✓                 |
| Gear restrictions         | ✓                   | ✓                      | ✓                 |
| Limited entry             |                     | ✓                      | ✓                 |
| Marine park closures      |                     | ✓                      |                   |
| Mesh size regulations     |                     | ✓                      |                   |
| Spatial                   |                     |                        | ✓                 |

|                              |   |   |   |
|------------------------------|---|---|---|
| <b>closures</b>              |   |   |   |
| <b>Total allowable catch</b> | ✓ |   | ✓ |
| <b>Vessel restrictions</b>   |   | ✓ | ✓ |

|                       |                   |
|-----------------------|-------------------|
| <b>Active Vessels</b> |                   |
|                       | <b>Queensland</b> |
|                       | 0 in ECOTF,       |

ECOTF East Coast Otter Trawl Fishery(QLD)

|                   |                          |                        |                   |
|-------------------|--------------------------|------------------------|-------------------|
| <b>Catch</b>      |                          |                        |                   |
|                   | <b>Commonwealth</b>      | <b>New South Wales</b> | <b>Queensland</b> |
| <b>Commercial</b> | 171.128t in SESSF (CTS), | 0t in OTF,             | 0t in ECOTF,      |

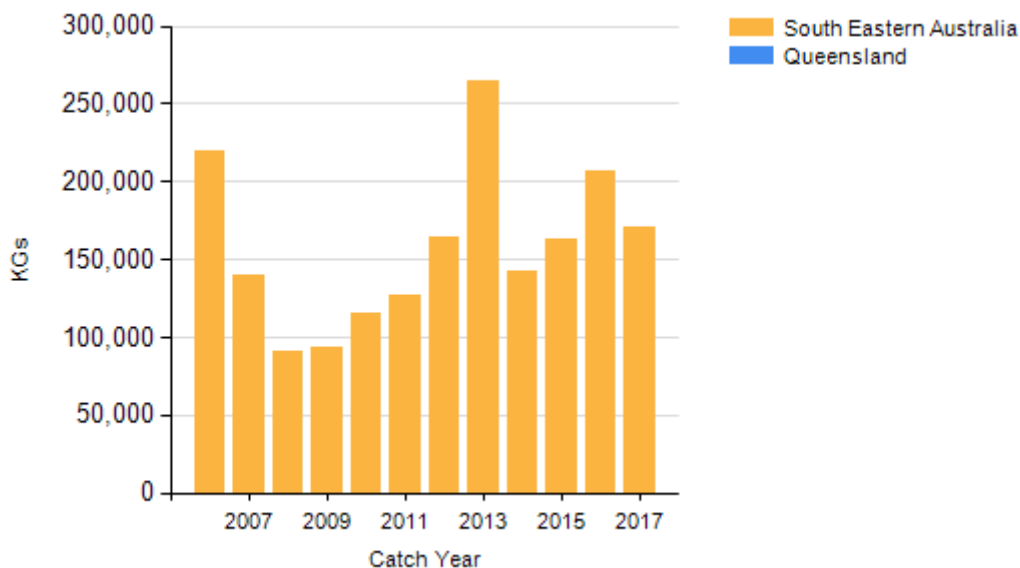
SESSF (CTS) Southern and Eastern Scalefish and Shark Fishery (Commonwealth Trawl Sector) (CTH), OTF Ocean Trawl Fishery (NSW), ECOTF East Coast Otter Trawl Fishery (QLD),

**Commonwealth – Recreational** The Commonwealth 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 Torres Strait. In general, non-commercial Indigenous fishing in Commonwealth waters is managed by the state or territory immediately adjacent to those waters.

**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.

### CATCH CHART



Commercial catch of Royal Red Prawn - note confidential catch not shown

### EFFECTS OF FISHING ON THE MARINE ENVIRONMENT

**ENVIRONMENTAL EFFECTS on Royal Red Prawn**

| <b>References</b> |   |
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| 1080              | Queensland Department of Agriculture and Fisheries 2018, Queensland Stock Status Assessment Workshop Proceedings 2018. Species Summaries. 19–20 June 2018, Brisbane.  |
| 1081              | Rowling K 1995, Royal Red Prawn 1994, Stock Assessment Report, South East Fishery Assessment Group. Australia Fisheries Management Authority, Canberra.   |
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