

59. Redthroat Emperor *Lethrinus miniatus*

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Table 1: Stock status determination for Redthroat Emperor

Jurisdiction	Queensland	Western Australia
Stock	East coast Queensland (CRFFF)	Western Australian (GDSMF, WCDSIMF)
Stock status	Sustainable	Undefined
Indicators	Catch, CPUE, stock assessment	Catch

CPUE = catch per unit effort; CRFFF = Coral Reef Fin Fish Fishery (Queensland); GDSMF = Gascoyne Demersal Scalefish Managed Fishery (Western Australia); WCDSIMF = West Coast Demersal Scalefish (Interim) Managed Fishery (Western Australia)

Stock structure

Genetic analysis indicates that there are two separate biological stocks of Redthroat Emperor in western and eastern Australian waters¹. Reporting of stock status is at the biological stock level.

Stock status

East coast Queensland biological stock

The most recent assessment (2006) of the east coast Queensland biological stock² of Redthroat Emperor analysed fishery data using an age-structured model that incorporated all available information on catch, catch per unit effort and age structure. The model estimated that biomass in 2004 was approximately 70 per cent of the unfished (1946) level. The maximum sustainable yield was estimated to be in the range of 760–964 tonnes (t) per year. Since 2004–05, annual commercial catches have averaged approximately 250 t. The latest recreational estimate (for 2010) was 90 t, with the combined catch being well below the estimated maximum sustainable yield³. The biomass of the stock is therefore not recruitment overfished.

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Fishing mortality over the past decade has been low compared with the maximum sustainable yield estimate, and both catches and commercial standardised catch rates have been historically stable. Although recreational fishing effort is not capped, the current level of fishing pressure is highly unlikely to cause the stock to become recruitment overfished.

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

Western Australian biological stock

A stock assessment of Western Australian Redthroat Emperor has not yet been conducted. Commercial catches have been stable over the past 5 years, but insufficient information is available to confidently classify the status of this biological stock.

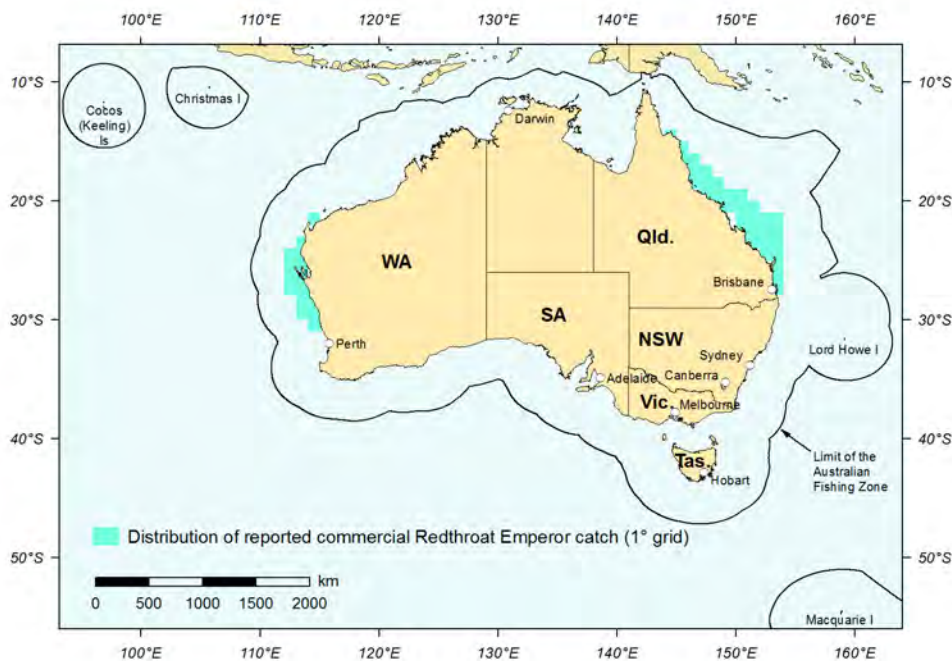
On the basis of the evidence provided above, the stock is classified as an **undefined stock**.

Table 2: Redthroat Emperor biology^{1,4,5}

Longevity and maximum size	20 years; 650 mm TL
Maturity (50%)	Females: 1.2 years; 280 mm FL, 310 mm TL

FL = fork length; TL = total length

Figure 1: Distribution of reported commercial catch of Redthroat Emperor in Australian waters, 2013 (calendar year)



Note: Data for the Western Australian catch align with the 2013 calendar year, whereas data for Queensland align with the 2012–13 financial year.

Table 3: Main features and statistics for Redthroat Emperor fisheries in Australia, 2013 (calendar year)

Jurisdiction	Queensland ^a	Western Australia ^b
Fishing methods		
Commercial		
Hand line	✓	✓
Rod and line	✓	
Fish trawl		✓
Fish trap		✓
Recreational		
Hand line	✓	✓
Rod and line	✓	✓
Spearfishing	✓	✓
Indigenous^{c,d}		
Hand line	✓	✓
Rod and line	✓	✓
Spearfishing	✓	✓
Management methods		
Commercial		
Limited entry	✓	✓
Gear restrictions	✓	✓
Size limits	✓	✓
Vessel restrictions	✓	✓
Catch restrictions	✓	✓
Spatial zoning		✓
Spatial closures	✓	✓
Temporal closures	✓	
Effort limits		✓
Total allowable effort		✓

STATUS OF KEY AUSTRALIAN FISH STOCKS REPORTS 2014
REDTHROAT EMPEROR

Jurisdiction	Queensland ^a	Western Australia ^b
Recreational		
Licensing (fishing from a boat)		✓
Gear restrictions	✓	✓
Size limits	✓	✓
Catch limits	✓	✓
Spatial closures	✓	✓
Temporal closures	✓	✓
Charter		
Limited entry	✓	✓
Spatial zoning		✓
Gear restrictions	✓	✓
Passenger restrictions	✓	✓
Size limits	✓	✓
Catch limits	✓	✓
Spatial closures	✓	✓
Temporal closures	✓	✓
Indigenous^{c,d}		
Laws of general application		✓
Active vessels		
	163 in CRFFF	12 in GDSMF 35 in WCDSIMF
Catch		
Commercial	218 t in CRFFF	4 t in GDSMF ⁶ 44 t in WCDSIMF
Recreational	65 000 fish (2010) ³ ; ~90 t	9100 fish (2011–12); ~11 t ⁷
Charter	72 t	2600 fish; ~3 t
Indigenous	Unknown	Unknown

Jurisdiction	Queensland ^a	Western Australia ^b
Markets		
Domestic	✓	✓
Export		

CRFFF = Coral Reef Fin Fish Fishery (Queensland); GDSMF = Gascoyne Demersal Scalefish Managed Fishery (Western Australia); WCDSIMF = West Coast Demersal Scalefish (Interim) Managed Fishery (Western Australia)

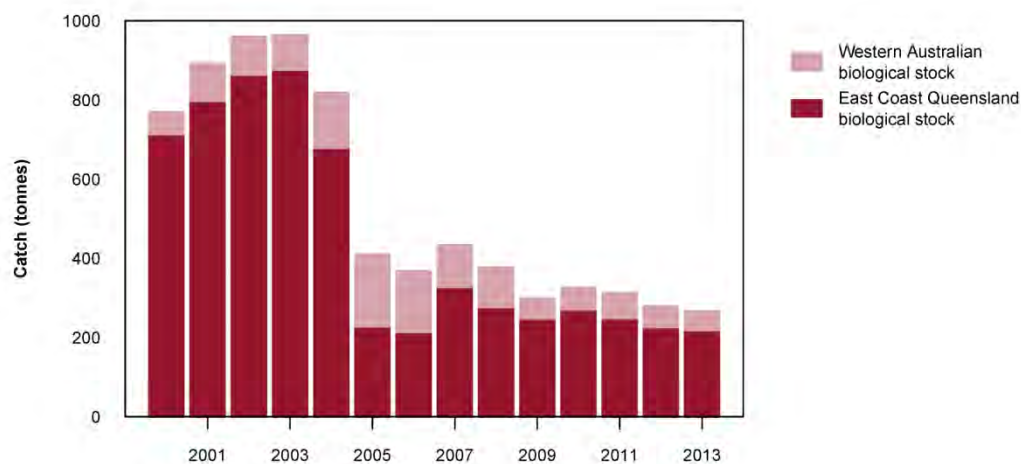
a Data for Queensland align with the 2012–13 financial year.

b Data for Western Australia align with the 2013 calendar year.

c Under the *Fisheries Act 1994* (Qld), Indigenous fishers in Queensland are entitled to use prescribed traditional and noncommercial fishing apparatus in waters open to fishing. Size and possession limits, and seasonal closures do not apply to Indigenous fishers. Further exemptions to fishery regulations may be applied for through permits.

d 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.

Figure 2: Commercial catch of Redthroat Emperor in Australian waters, 2000 to 2013 (calendar year)



Note: Data for Western Australian catch align with calendar years, whereas data for Queensland align with financial years.

Effects of fishing on the marine environment

- Beyond the removal of target fish and smaller quantities of coral reef finfish species, there is little evidence to suggest that the fisheries targeting Redthroat Emperor impact significantly on the marine environment or ecosystems.

Environmental effects on Redthroat Emperor

- Coral bleaching events⁸, indicating changes in ocean chemistry due to ocean acidification, have the potential to impact on the replenishment rates of coral reef finfish populations by affecting larval survival⁹, as well as individual growth rates and spawning output¹⁰.

- There is evidence that tropical cyclones have resulted in both positive and negative changes in the catch rates of Redthroat Emperor, well beyond the duration of the cyclone itself¹¹. The reasons for this are not yet understood but possibly relate to water temperature and food availability¹¹. A related species (Red Snout Emperor—*Lethrinus reticulatus*) has been shown to have relatively low tolerance to increased water temperature¹².

References

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