

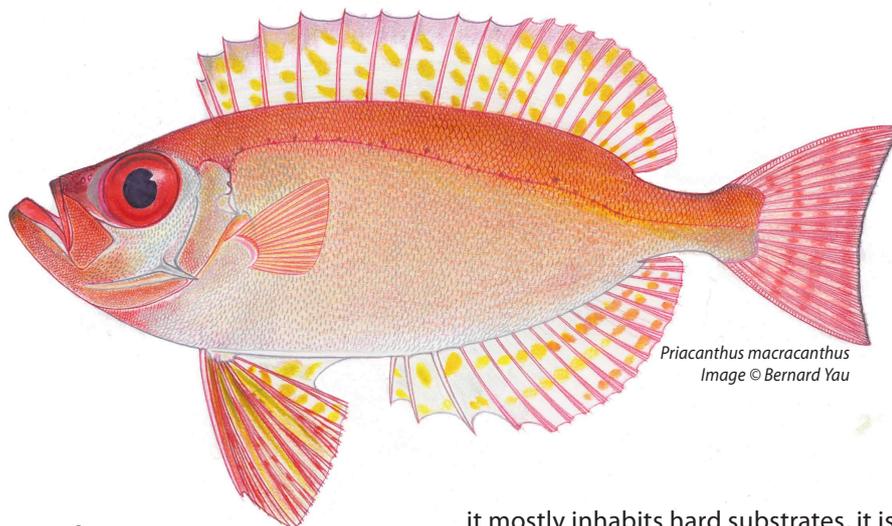
# Bigeyes

## (Priacanthidae)

**EXPLOITATION STATUS** UNDEFINED

Taken as a bycatch in the Estuary Prawn Trawl and Ocean Trawl Fisheries and also caught by the recreational sector. Little biological information is available.

SCIENTIFIC NAME	STANDARD NAME	COMMENT
<i>Priacanthus macracanthus</i>	spotted bigeye	Also known as red bullseye.
<i>Cookeolus japonicus</i>	longfin bigeye	
<i>Priacanthus hamrur</i>	lunartail bigeye	



### Background

The bigeye or red bullseye family (Priacanthidae) contains about 17 species distributed worldwide in tropical and subtropical seas. Nine species of bigeyes are known from Australian waters and at least five occur in NSW. They are small to medium sized fishes and their most obvious characteristics are their very large eyes and overall reddish-brown colour.

Since about 2000, there have been small but regular landings of 'red bullseye' in NSW, reported from the Ocean Trawl Fishery. It is likely that most of the catch comprises the spotted bigeye (*Priacanthus macracanthus*) but it is probable that smaller quantities of the longfin bigeye (*Cookeolus japonicus*) and occasional lunartail bigeye (*P. hamrur*) are included in the catch. The longfin bigeye can be distinguished from the spotted bigeye by its deeper body and long ventral fin; the fins are generally dark-coloured without spots. Because

it mostly inhabits hard substrates, it is not as commonly caught in trawls as the spotted bigeye, but its average size (20-30 cm) is usually larger.

The spotted bigeye is commonly found in estuaries and inshore waters along Australia's east coast, and also further north in tropical areas of the west Pacific and around Taiwan. Juveniles can have a dark mottled appearance when freshly caught but larger fish are plain red with light coloured fins with rows of dark yellow-green spots. In NSW, bigeyes usually live in depths less than 100 m. Juveniles (< 20 cm in length) are commonly caught on eastern king prawn grounds. During exploratory fishing in 1982, Fisheries Research Vessel *Kapala* caught three boxes of large spotted bigeye (around 30 cm total length) in 275 m off the northern NSW coast. This species is reported to grow in excess of 40 cm but no information has been collected on the size composition or biology of spotted bigeye in Australia.

The longfin bigeye has a widespread cosmopolitan distribution and is normally found in deeper water than the spotted bigeye. Fisheries Research Vessel *Kapala* records for longfin bigeye on NSW trawl grounds were from depths between 30 and 275 m but the majority were caught on the mid to outer continental shelf between 100 and 150 m depth. The longfin bigeye also frequents reef areas.

## Additional Notes

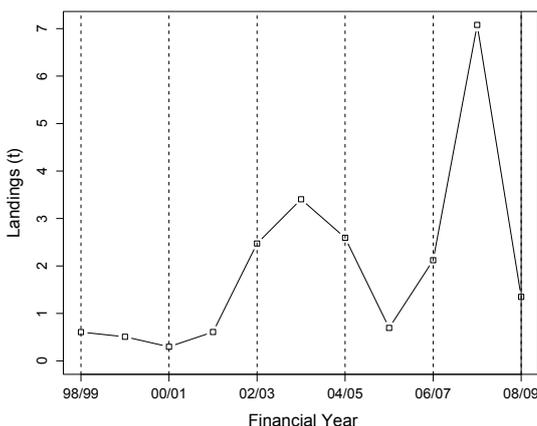
- Species is a bycatch of estuarine and ocean prawn trawl fishing - annual landings generally less than 5 t.
- Bigeyes are also harvested by the deepwater recreational fishery in small numbers at around 30 cm in length.
- Creel surveys in Lake Macquarie indicate that there are considerable catches of this species (Steffe *et al.* 2005).
- Very little biological information is available for bigeyes.

## Catch

### Recreational Catch of Bigeyes

The annual recreational harvest of bigeyes in NSW is likely to be less than one tonne.

### Historical Landings of Bigeyes



**Commercial landings (including available historical records) of bigeyes for NSW from 1998/99 to 2008/09 for all fishing methods.**

## Further Reading

- Kuiter, R.H. (1993). Coastal Fishes of South-Eastern Australia. Honolulu, University of Hawaii press.
- Liu, K.M. and Y.L. Cheng (1999). Virtual population analysis of the big eye *Priacanthus macracanthus* in the waters off northeastern Taiwan. *Fisheries Research* **41** (3): 243-254.
- Liu, K.M., C.T. Chen and R.H. Yang (1999). Estimates of age and growth on the big eye *Priacanthus macracanthus* in the northeastern Taiwan waters. *Fisheries Science* **65** (2): 211-217.
- Liu, K.M., K.Y. Hung and C.T. Chen (2001). Reproductive biology of the big eye *Priacanthus macracanthus* in the north-eastern waters off Taiwan. *Fisheries Science* **67** (6): 1008-1014.
- Liu, K.M., K.Y. Hung and S.J. Joung (2002). Estimate of reproductive value of the big eye *Priacanthus macracanthus* in the north-eastern waters off Taiwan. *Fisheries Science* **68** (3): 523-528.
- Oki, D. and O. Tabeta (1999). Age and growth of big eye *Priacanthus macracanthus* in the East China Sea. *Fisheries Science* **65** (3): 436-440.
- Oki, D. and O. Tabeta (1999). Reproductive characteristics of big eye *Priacanthus macracanthus* in the East China Sea. *Fisheries Science* **65** (6): 835-838.
- Steffe, A.S., J.J. Murphy, D.J. Chapman and C.C. Gray (2005). An assessment of changes in the daytime recreational fishery of Lake Macquarie following the establishment of a 'Recreational Fishing Haven'. 103 pp. Cronulla, NSW Fisheries.

Please visit the CSIRO website, <http://www.marine.csiro.au/caab/> and search for the species code (CAAB) 37 326001, 37 326002 and 37 326005, common name or scientific name to find further information.