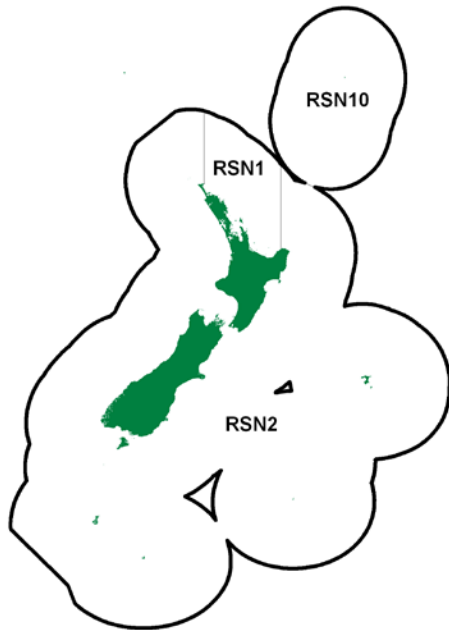


**RED SNAPPER (RSN)**

(*Centroberyx affinis*)  
Kaorea

**1. FISHERY SUMMARY**

Red snapper was introduced into the Quota Management System on 1 October 2004 with the TACs, TACCs and allowances as shown in Table 1. These have not changed.

**Table 1: Recreational and customary non-commercial allowances, TACCs and TACs of red snapper.**

| Fishstock | Recreational Allowance | Customary non-commercial Allowance | Other sources of mortality | TACC | TAC |
|-----------|------------------------|------------------------------------|----------------------------|------|-----|
| RSN 1     | 13                     | 2                                  | 1                          | 124  | 140 |
| RSN 2     | 2                      | 1                                  | 1                          | 21   | 25  |
| RSN 10    | 1                      | 1                                  | 1                          | 1    | 4   |
| Total     | 16                     | 4                                  | 3                          | 146  | 169 |

**1.1 Commercial fisheries**

Small commercial catches of red snapper in New Zealand have almost certainly been made for decades, but would have been included among “assorted minor species” in reported landings. Reported annual landings increased to a peak of 186t in 1996/97, and declined continuously since then (Tables 2 and 3, Figure 1).

Red snapper is mostly taken as a bycatch of 1) the longline fishery for snapper off east Northland, 2) the trawl fisheries for tarakihi off east and west Northland, and 3) the setnet fishery for snapper and trevally in the Bay of Plenty.

**1.2 Recreational fisheries**

The National Marine Recreational Fishing surveys in 1994, 1996, and 2000 do not provide an estimate of the recreational catch of red snapper. However, it is likely that recreational fishers will periodically catch red snapper while line fishing on deep reefs in Northland, the outer Hauraki Gulf, and Bay of Plenty.

**1.3 Customary non-commercial fisheries**

There is no quantitative information available to allow the estimation of the amount of red snapper taken by customary non-commercial fishers.

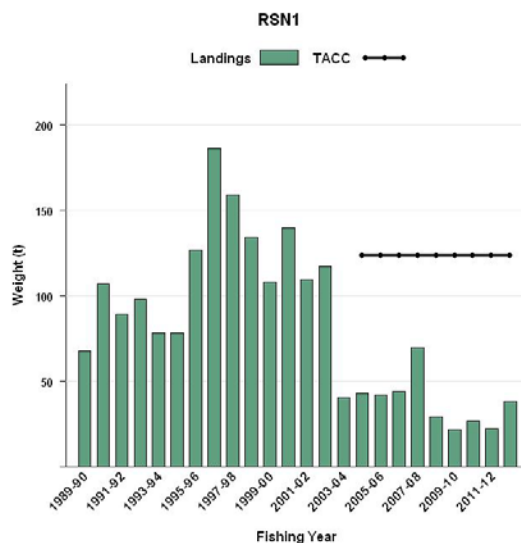
## RED SNAPPER (RSN)

**Table 2: Reported landings (t) by commercial fishers of red snapper by FMA from 1989–90 to 2003–04. Data are derived from the landing section of CELRs and CLRs.**

|         | FMA 1 | FMA 2 | FMA 3 | FMA 4 | FMA 7 | FMA 8 | FMA 9 | FMA 10 | Unknown | Total |
|---------|-------|-------|-------|-------|-------|-------|-------|--------|---------|-------|
| 1989–90 | 67.9  | 3     | 3.1   | 0     | 1.8   | 0.9   | 0     | 0      | 0.0     | 76.7  |
| 1990–91 | 107.3 | 1.2   | 2.8   | 0     | 0.6   | 0.7   | 0     | 0      | 0.0     | 112.7 |
| 1991–92 | 89.1  | 0.7   | 1.1   | 0     | 0     | 1.6   | 0     | 0.6    | 0.0     | 93.2  |
| 1992–93 | 98.2  | 2.1   | 0.4   | 0     | 0     | 0.6   | 0     | 0      | 0.3     | 101.6 |
| 1993–94 | 78.2  | 2.6   | 0.3   | 0.1   | 0.4   | 0.4   | 0.2   | 0      | 0.0     | 82.4  |
| 1994–95 | 78.2  | 1.8   | 0.3   | 0     | 0.2   | 0.6   | 0.5   | 0      | 1.0     | 82.6  |
| 1995–96 | 126.7 | 2.1   | 0.8   | 0.2   | 1.2   | 0.2   | 1     | 0      | 1.3     | 133.4 |
| 1996–97 | 186.4 | 17.4  | 0.9   | 0     | 1     | 0.3   | 2.9   | 0.2    | 2.8     | 211.8 |
| 1997–98 | 159.1 | 3.4   | 0.3   | 0     | 0.2   | 0.7   | 3.6   | 0      | 0.8     | 168.2 |
| 1998–99 | 134.4 | 1.5   | 0.4   | 0.1   | 0.3   | 1     | 4.7   | 0      | 0.4     | 142.8 |
| 1999–00 | 108.1 | 1.3   | 0.8   | 0     | 0.1   | 21.3  | 25.4  | 0      | 0.7     | 157.7 |
| 2000–01 | 140.0 | 1.1   | 2.3   | 0.8   | 0     | 0.8   | 51.5  | 0      | 0.0     | 196.5 |
| 2001–02 | 109.7 | 1.5   | 2.2   | 0.1   | 0     | 0.4   | 12.3  | 0      | 0.6     | 126.7 |
| 2002–03 | 117.5 | 2.2   | 0.3   | 0     | 0     | 0.6   | 37.5  | 0      | 14.2    | 172.5 |
| 2003–04 | 40.9  | 1.8   | 0.2   | 0     | 0.3   | 1.3   | 6.7   | 0      | 0       | 51.3  |

**Table 3: Reported domestic landings (t) of red snapper Fishstock and TACCs from 2004–05 to 2012–13.**

|         | RSN 1    |      | RSN 2    |      | RSN 10   |      | Total    |      |
|---------|----------|------|----------|------|----------|------|----------|------|
|         | Landings | TACC | Landings | TACC | Landings | TACC | Landings | TACC |
| 2004–05 | 43       | 124  | 11       | 21   | 0        | 1    | 54       | 146  |
| 2005–06 | 41       | 124  | 8        | 21   | 0        | 1    | 49       | 146  |
| 2006–07 | 44       | 124  | 10       | 21   | 0        | 1    | 53       | 146  |
| 2007–08 | 70       | 124  | 17       | 21   | 0        | 1    | 87       | 146  |
| 2008–09 | 30       | 124  | 12       | 21   | 0        | 1    | 42       | 146  |
| 2009–10 | 22       | 124  | 9        | 21   | 0        | 1    | 31       | 146  |
| 2010–11 | 27       | 124  | 8        | 21   | 0        | 1    | 35       | 146  |
| 2011–12 | 23       | 124  | 5        | 21   | 0        | 1    | 27       | 146  |
| 2012–13 | 38       | 124  | 7        | 21   | 0        | 1    | 45       | 146  |



**Figure 1: Historical landings and TACC for the main RSN stock, RSN 1 (Auckland).**

## 2. BIOLOGY

The red snapper (*Centroberyx affinis*) is present throughout New Zealand coastal waters, but is generally rare south of East Cape and Cape Egmont. In southeastern Australia (known as redfish) it occurs from Brisbane to Melbourne, and off northern Tasmania.

Red snapper occur in association with deep coastal reefs, in particular caves and overhangs, as well as in open water, to depths of about 400 m. Their relative abundance within this depth range is unknown. The southeastern Australian target fishery operates at depths of 100–250 m (Rowling 1994).

There have been no formal ageing studies of New Zealand red snapper, but Leachman et al (1978) reported a maximum ring count of 80, based on examination of a few broken and burned otoliths. These rings were not, however, validated. Work in Australia, based on tagging and thin otolith sections suggest unvalidated ages of at least 35 (Rowling 1994) and 40 years (Smith & Robertson 1992). Radiocarbon analysis supported an age of at least 37 years (Kalish 1995).

Red snapper attain 55 cm in New Zealand but average 30–40 cm. Nothing is known of their reproductive biology.

### 3. STOCKS AND AREAS

There has been no research to determine if there are separate biological stocks of red snapper.

### 4. STOCK ASSESSMENT

There has been no scientific stock assessment of the biomass that can support the Maximum Sustainable Yield (*MSY*) for red snapper.

### 5. STATUS OF THE STOCK

The reference or current biomass is not known for any red snapper stock. It is not known if the recent catch levels are sustainable. The status of RSN 1, 2 and 10 relative to  $B_{MSY}$  is unknown.

TACCs and reported landings by Fishstock, for the 2012–13 fishing year, have been summarised in Table 4.

**Table 4: Summary of TACCs (t) and reported landings (t) of red snapper for the 2012–13 fishing year.**

| Fishstock   | FMA                 | 2012–13<br>Actual TACC | 2012–13<br>Reported landings |
|---|---------------------|------------------------|------------------------------|
| RSN 1      Auckland (East)  | 1                   | 124                    | 38                           |
| RSN 2      Auckland (West), South east,<br>Southland, Sub-Antarctic,<br>Central, Challenger | 2,3,4,5,6,<br>7,8&9 | 21                     | 7                            |
| RSN 10      Kermadec  | 10                  | 1                      | 0                            |
| Total   |                     | 146                    | 45                           |

### 6. FOR FURTHER INFORMATION

- Ayling, T; Cox, G J (1984) *Collins guide to the sea fishes of New Zealand*. Collins, Auckland. 343 p.
- Francis, M (2001) *Coastal fishes of New Zealand. An identification guide*. Reed Books, Auckland. 103 p. + pls.
- Kalish, J M (1995) Application of the bomb radiocarbon chronometer to the validation of redfish *Centroberyx affinis* age. *Canadian Journal of Fisheries and Aquatic Sciences* 52(7): 1399–1405.
- Leachman, A; Ritchie, L; Robertson, D (1978) Should red moki be shot in New Zealand UA competitions? *New Zealand Diver* 3(2): 2.
- Paul, L J (1992) Age and growth studies of New Zealand marine fishes, 1921–90: a review and bibliography. *Australian Journal of Marine and Freshwater Research* 43(5): 879–912.
- Paul, L (2000) *New Zealand fishes. Identification, natural history and fisheries*. Reed Books, Auckland. 253 p.
- Rowling, K R (1994) Redfish, *Centroberyx affinis*. In Tilzey, R D J (Ed), The south east fishery. A scientific review with particular reference to quota management. pp. 149–158. Bureau of Rural Resources, Australia.
- Smith, D C; Robertson, S G (1992) Age determination for redfish, *Centroberyx affinis*, from samples submitted to the Central Ageing Facility: 1991/1992. Marine Science Laboratories, Queenscliff, Victoria, Australia. Internal Report 203 p.
- Stewart, P (1993) Redfish, *Centroberyx affinis*. In Kailola et al (Eds.), Australian fisheries resources. pp. 232–234. Bureau of Resource Sciences, Canberra. 422 p.
- Thompson, S (1981) *Fish of the Marine Reserve. A guide to the identification and biology of common coastal fish of north-eastern New Zealand*. Leigh Laboratory, University of Auckland. 364 p.
- Yearsley, G K; Last, P R; Ward, R D (Eds.) (1999) *Australian seafood handbook: identification guide to domestic species*. CSIRO Marine Research, Australia. 461 p.