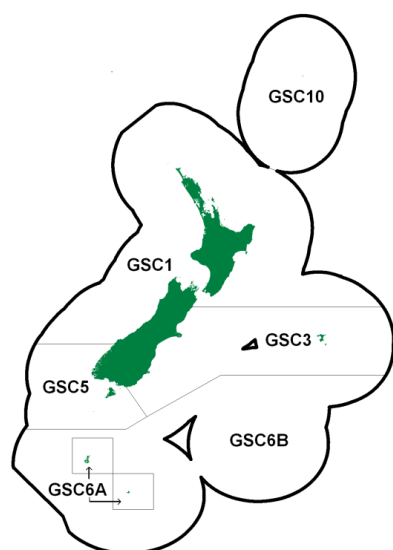


## GIANT SPIDER CRAB (GSC)

*(Jacquinotia edwardsii)*

## 1. FISHERY SUMMARY

### 1.1 Commercial fisheries

The giant spider crab (*Jacquinotia edwardsii*) was introduced into the Quota Management System on 1 April 2004 with a combined TAC of 451 t and TACC of 419. There are no allowances for customary or recreational take, and there is an allowance for other sources of mortality of 32 t. The fishing year is from 1 April to 31 March and commercial catches are measured in greenweight. Up until 2001–02, reported commercial catches of this crab were generally low (Table 1). Since then total reported landings have risen from about 8 t to more than 70 t (Table 1). There was exploratory fishing for this crab in the late 1960s and early 1970s in the Auckland Islands and Pukaki Rise areas and then little interest until, according to Ministry data, the 1999–2000 fishing year. Figure 1 shows the historical landings and TACC for the main GSC stocks.

**Table 1: TACCs and reported landings (t) of giant spider crab by Fishstock from 2001–02 to 2014–15 from CELR and CLR data. (N/A = no TACC set). [Continued on next page].**

Fishstock	GSC 1		GSC 3		GSC 4		GSC 5		GSC 6	
	Landings	TACC	Landings	TACC	Landings	TACC	Landings	TACC	Landings	TACC
1990–91	<1	-	0	-	0	-	0	-	0	-
1991–92	0	-	0	-	0	-	0	-	0	-
1992–93	0	-	0	-	0	-	0	-	<1	-
1993–94	<1	-	0	-	0	-	0	-	<1	-
1994–95	0	-	0	-	0	-	0	-	0	-
1995–96	0	-	0	-	0	-	0	-	0	-
1996–97	<1	-	0	-	0	-	<1	-	0	-
1997–98	0	-	0	-	0	-	<1	-	0	-
1998–99	<1	-	0	-	0	-	0	-	0	-
1999–00	0	-	<1	-	0	-	0	-	<1	-
2000–01	0	-	<1	-	0	-	0	-	<1	-
2001–02	0	-	<1	-	0	-	1	-	7	-
2002–03	0	-	<1	-	0	-	<1	-	3	-
2003–04	0	1	<1	14	<1	N/A	2	19	7	N/A
2004–05	0	1	<1	14	N/A	N/A	5	19	N/A	N/A
2005–06	0	1	<1	14	N/A	N/A	8	19	N/A	N/A
2006–07	0	1	<1	14	N/A	N/A	5	19	N/A	N/A
2007–08	0	1	<1	14	N/A	N/A	11	19	N/A	N/A
2008–09	<1	1	13	14	N/A	N/A	10	19	N/A	N/A
2009–10	<1	1	12	14	N/A	N/A	25	19	N/A	N/A
2010–11	0	1	1	14	N/A	N/A	19	19	N/A	N/A
2011–12	0	1	2	14	N/A	N/A	14	19	N/A	N/A
2012–13	<1	1	<1	14	N/A	N/A	54	19	N/A	N/A
2013–14	0	1	2	14	N/A	N/A	72	19	N/A	N/A
2014–15	0	1	14	14	N/A	N/A	80	19	N/A	N/A

Table 1 [Continued].

Fishstock	GSC 6A		GSC 6B		GSC 8		GSC 10		TOTAL	
	Landings	TACC	Landings	TACC	Landings	TACC	Landings	TACC	Landings	TACC
1990-91	0	-	0	-	0	-	0	-	<1	-
1991-92	0	-	0	-	0	-	0	-	0	-
1992-93	0	-	0	-	0	-	0	-	0	-
1993-94	0	-	0	-	0	-	0	-	1	-
1994-95	0	-	0	-	0	-	0	-	0	-
1995-96	0	-	0	-	<1	-	0	-	<1	-
1996-97	0	-	0	-	0	-	0	-	<1	-
1997-98	0	-	0	-	0	-	0	-	<1	-
1998-99	0	-	0	-	0	-	0	-	0	-
1999-00	0	-	0	-	0	-	0	-	2	-
2000-01	0	-	0	-	0	-	0	-	<1	-
2001-02	0	-	0	-	0	-	0	-	8	-
2002-03	0	-	0	-	0	-	0	-	4	-
2003-04	0	148	0	237	0	N/A	0	0	27	419
2004-05	24	148	2	237	N/A	N/A	0	0	35	419
2005-06	63	148	1	237	N/A	N/A	0	0	72	419
2006-07	23	148	<1	237	N/A	N/A	0	0	30	419
2007-08	16	148	2	237	N/A	N/A	0	0	29	419
2008-09	13	148	<1	237	N/A	N/A	0	0	36	419
2009-10	44	148	3	237	N/A	N/A	0	0	84	419
2010-11	23	148	<1	237	N/A	N/A	0	0	43	419
2011-12	83	148	<1	237	N/A	N/A	0	0	99	419
2012-13	80	148	5	237	N/A	N/A	0	0	140	419
2013-14	52	148	<1	237	N/A	N/A	0	0	127	419
2014-15	128	148	2	237	N/A	N/A	0	0	224	419

Figure 1: Reported commercial landings and TACC for GSC 5 (Southland), and GSC 6A (Southern Islands). Note that these figures do not show data prior to entry into the QMS.

## 1.2 Recreational fisheries

There are no known records of recreational use of this crab.

## 1.3 Customary non-commercial fisheries

There are no known records of customary use of this crab.

## 1.4 Illegal catch

There is no known illegal catch of this crab.

## 1.5 Other sources of mortality

There is no quantitative information on other sources of mortality, although this crab is often taken as a bycatch in orange roughy fishing.

## 2. BIOLOGY

*Jacquintia* is found from the intertidal to over 500 m in the southeast and south of New Zealand from near Mernoo Gap to Campbell Island. It appears to attain highest densities southeast of the Snares, on the Pukaki Rise, and around the Auckland Islands. Ryff & Voller (1976) recorded *Jacquintia* in highest quantities on the Pukaki Rise and at the Auckland Islands, then decreasing quantities at the Campbell Islands, Bounty Islands, Stewart Island, Stewart Island Shelf, Puysegur Bank, and off Otago Heads, an observation consistent with earlier resource surveys (Ritchie 1970, 1973; Webb 1972). At the Auckland Islands they appear to be most abundant between 20 m and 40 m, but on the Pukaki Rise between 140 m and 160 m.

This spider crab, also sometimes known as the southern spider crab or the Auckland Islands crab, is a large, conspicuous brachyuran with a brick red carapace and bright red to yellowish-white chelae. The male grows much larger than the female, to at least 20 cm across the back and, together with its up to 40 cm long clawed legs, can give a total spread approaching 1 m. The males at least seem to be migratory.

## GIANT SPIDER CRAB (GSC)

There have been reports of ‘mounding’ behaviour associated with moulting and mating (Bennett 1964, Ritchie 1970) in which large numbers of crabs form clumps, particularly in spring and autumn.

Large males have been observed feeding on ribbed mussels (*Aulacomya maoriana*) and they probably also feed on other shellfish, both bivalves (*Mytilus*, *Macra*) and gastropods (*Haliotis*, *Maurea*, *Struthiolaria*). In contrast, females are detritus feeders on sandy substrates, and juveniles seem to feed on drift algae. These differences mean that although both males and females may enter pots, only males have been observed feeding on fish bait.

Sexes are separate and in both there appears to be a terminal moult. Males reach maturity at 110 mm carapace length (CL) and females at 100 mm CL. It appears that, at least near land masses, large males migrate between shallow and deep water seasonally. Pairs form in shallow water (less than 10 m) or just out of the water in September–November, when females are in late berry. Egg extrusion probably takes place in September to February and larval release in September to November. A female of 101 mm CL carries about 37 500 eggs; a female of 126 mm CL about 71 200 eggs. Only one batch of eggs is produced each year and the interval between hatching of one lot of eggs and extrusion of the next batch is very short. In summer, females and pre-puberty males occur mainly in shallow water while large males are found deeper.

Larval duration, survival, behaviour, and settlement are poorly known. There are two zoeal stages but the megalopa is unknown. Zoea probably occur in the plankton during September to November. Juveniles have been found in large numbers close inshore at the Auckland Islands, where shoreline rock meets the deeper mud and sand flats. Seaweed present here was apparently both food and shelter for the young crabs.

There is little or no information available on age, growth and natural mortality. Moulting appears to take place between November and March. Males reach 220 mm CL; females 144 mm. According to Ritchie (1970), *M* for mature females is 13–25%, and may be slightly higher for mature males.

### 3. STOCKS AND AREAS

For management purposes stock boundaries are based on FMAs, however, there is currently no biological or fishery information which could be used to identify stock boundaries.

### 4. STOCK ASSESSMENT

#### 4.1 Estimates of fishery parameters and abundance

There are no estimates of fishery parameters or abundance for any giant spider crab fishstock.

#### 4.2 Biomass estimates

There are no biomass estimates for any giant spider crab fishstock.

#### 4.3 Yield estimates and projections

There are no estimates of *MCY* for any giant spider crab fishstock.

There are no estimates of *CAY* for any giant spider crab fishstock.

### 5. STATUS OF THE STOCKS

There are no estimates of reference or current biomass for any giant spider crab fishstock.

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