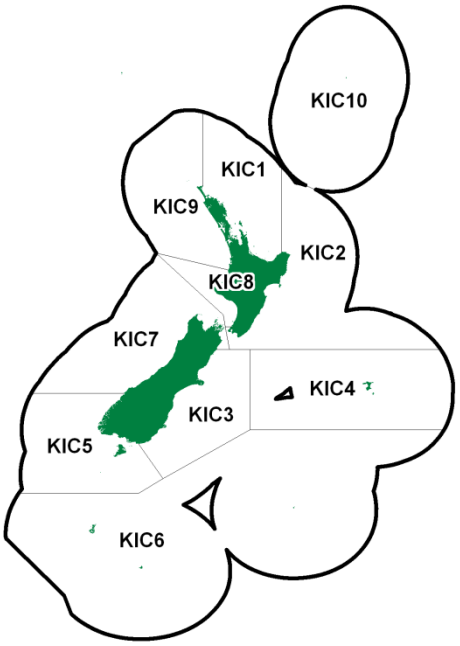
KING CRAB (KIC)

(*Lithodes aotearoa, Neolithodes brodiei*)



Lithodes aotearoa

Neolithodes brodiei

1. FISHERY SUMMARY

1.1 Commercial fisheries

King crabs (*Lithodes aoteroa* and *Neolithodes brodiei*) were introduced into the Quota Management System on 1 April 2004 with a combined TAC of 90 t and TACC of 90 t (Table 1). There are no allowances for customary, recreational, or other sources of mortality. The fishing year is from 1 April to 31 March and commercial catches are measured in greenweight. The two crabs are relatively distinct, and are found at different depths, but may be confused with other species of *Lithodes*.

Table 1: TACCs and reported landings (t) of king crab by Fishstock from 1993–94 to present. [Continued on next page]

Fishstock	KIC 1		KIC 2		KIC 3		KIC 4		KIC 5	
	Landing	TACC	Landing	TACC	Landing	TACC	Landing	TACC	Landing	TACC
1993–94	0	–	0.12	–	0.06	–	0	–	0	–
1994–95	0	–	0	–	0	–	0	–	0	–
1995–96	0	–	0	–	0.06	–	0	–	0	–
1996–97	0	–	0.08	–	0	–	0	–	0	–
1997–98	0	–	0	–	0	–	0	–	0	–
1998–99	0	–	0	–	0	–	0	–	0	–
1999–00	0	–	0	–	0.02	–	0	–	0	–
2000–01	0	–	0	–	0	–	0	–	0	–
2001–02	0.14	–	0.26	–	0	–	0	–	0	–
2002–03	0.01	–	0.01	–	0	–	0	–	0.03	–
2003–04	0	–	0	–	0.01	–	0.01	–	0	–
2004–05	0.01	10	0.08	10	0.12	10	0.02	10	0.03	10
2005–06	0	10	0.21	10	0.12	10	0.18	10	0.03	10
2006–07	0	10	0.04	10	0.24	10	0.9	10	0.13	10
2007–08	0.08	10	0.41	10	0.21	10	1.46	10	0.07	10
2008–09	0.01	10	0.19	10	0.24	10	1.57	10	0.07	10
2009–10	0	10	0.2	10	0.35	10	1.49	10	0.03	10
2010–11	0.02	10	0.18	10	0.25	10	1.9	10	0.14	10
2011–12	0	10	2.48	10	0.07	10	0.02	10	0.04	10
2012–13	0	10	3.76	10	0.13	10	0.02	10	0.11	10
2013–14	0	10	10.31	10	0.11	10	0.12	10	0.33	10
2014–15	0.01	10	8.09	10	0.12	10	0.02	10	0.09	10
2015–16	0	10	2.08	10	0.08	10	0.04	10	0.04	10
2016–17	0.02	10	0.03	10	0.05	10	0.29	10	0.02	10
2017–18	0.01	10	0.02	10	0.08	10	0.05	10	0.05	10
2018–19	0	10	0.02	10	0.45	10	0.05	10	0.41	10
2019–20	0.10	10	0.81	10	0.11	10	0.08	10	0.11	10

Table 1 [Continued]

Fishstock	KIC 6		KIC 7		KIC 8		KIC 9		Total	
	Landing	TACC	Landing	TACC	Landing	TACC	Landing	TACC	Landing	TACC
1993–94	0	–	0	–	0	–	0	–	0.12	–
1994–95	0	–	0	–	0	–	0	–	0	–
1995–96	0	–	0	–	0	–	0	–	0.10	–
1996–97	4.00	–	0	–	0	–	0	–	4.10	–
1997–98	0	–	0	–	0	–	0	–	0	–
1998–99	0.03	–	0	–	0	–	0	–	0.01	–
1999–00	0.04	–	0	–	0.07	–	0	–	0.12	–
2000–01	0.06	–	0	–	0	–	0	–	0.04	–
2001–02	0.03	–	0	–	0	–	0	–	0.45	–
2002–03	0.05	–	0	–	0	–	0	–	0.06	–
2003–04	0.46	–	0	–	0	–	0	–	0.48	–
2004–05	0.57	10	0	10	0	10	0	10	0.83	90
2005–06	0.51	10	0	10	0	10	0	10	1.05	90
2006–07	0.31	10	0	10	0	10	0.02	10	1.62	90
2007–08	0.49	10	0.08	10	0	10	0	10	2.82	90
2008–09	0.42	10	0.06	10	0	10	0.06	10	2.56	90
2009–10	0.34	10	0	10	0	10	0	10	2.47	90
2010–11	1.04	10	0	10	0.2	10	0.03	10	3.73	90
2011–12	0.34	10	0	10	0	10	0	10	2.98	90
2012–13	0.14	10	0	10	0	10	0.04	10	4.16	90
2013–14	0.70	10	0	10	0	10	0	10	11.61	90
2014–15	0.50	10	0.01	10	0	10	0	10	8.84	90
2015–16	0.27	10	0	10	0	10	0.01	10	2.51	90
2016–17	0.21	10	0	10	0	10	0	10	0.63	90
2017–18	0.85	10	0.01	10	0	10	0	10	1.07	90
2018–19	0.74	10	0	10	0	10	0.01	10	1.66	90
2019–20	0.54	10	0.01	10	0	10	0.01	10	1.76	90

*In 1995–96 and 1998–99, 47 kg and 1 kg of LMU were landed respectively, but no FMA was assigned to the landings. In 1996–97, 24 kg of NEB was landed but no FMA was assigned to this landing. These reported landings by species are included in the total landings for KIC in those years.

Landings have been reported from all QMAs, however these landings are small and may not reflect the actual catch. Most of the landed catch has been reported under the aggregated code KIC, although there are a few records by species (i.e., *L. aotearoa* [LMU] and *N. brodiei* [NEB]) mainly by the fisheries observers.

Most of the reported landings have come from KIC 2 from 2011–12 to 2015–16, which was fished under a special permit during that time; catches of 2.15 tonnes in 2013–14 and 2.3 tonnes in 2014–15 were taken under special permit. A special permit was also issued for KIC 6 in the 1996–97 fishing year (Table 1). Target fishing is by potting, although small quantities of crabs are taken as bycatch in fisheries such as orange roughy and squid. Figure 1 shows the historical landings and TACC for KIC 2. There was no target fishery between 2015–16 and 2018-19.

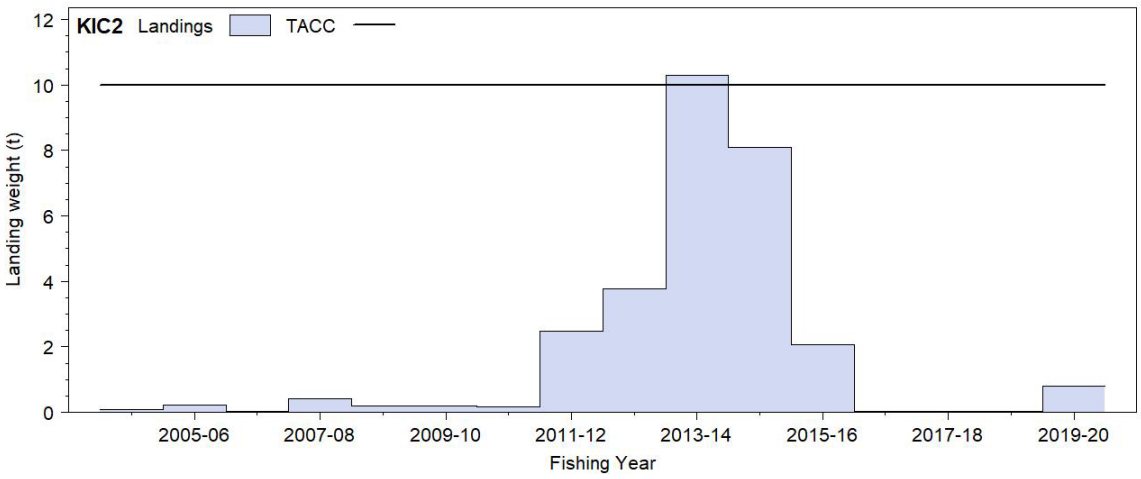


Figure 1: Reported commercial landings and TACC for KIC 2 (east coast North Island). Note that this figure does not show data prior to entry into the QMS and does not include the catch taken under special permits.

1.2 Recreational fisheries

There are no records of recreational use of these crabs and, because of their depth range, recreational catch is unlikely.

1.3 Customary non-commercial fisheries
There are no known records of customary use of these crabs and, because of their depth range, customary take is unlikely.

1.4 Illegal catch
There is no known illegal catch of these crabs.

1.5 Other sources of mortality
There is no quantitative information on other sources of mortality, although the crabs are sometimes taken as bycatch in orange roughy and squid fishing.

2. BIOLOGY

King crabs belong to the infra order Anomura, and differ from true crabs (Brachyura) in that the last pair of walking legs is reduced and folded inside the carapace.

L. aotearoa is a large, pear-shaped, dark purplish-red or brick red crab that has been found at depths between 120 m and 700 m, from the east coast of Northland to southern parts of the Campbell Plateau. It is a circumpolar, Southern Ocean species growing so large that the distance between the tips of the second legs can reach 1.25 m. The carapace width in males of this species may exceed 200 mm. Females are smaller.

N. brodiei is also pear-shaped and typically a uniform brick to bright red colour. It is widely distributed from the Three Kings Islands to the Campbell Plateau, where it occurs on soft and rocky bottom between about 800 m and 1100 m. Carapace width in this species is up to about 180 mm.

King crabs are thought to aggregate for protection during breeding and moulting. Migrations between shallow and deep waters also probably occur in response to moulting and mating, at least in near-shore populations. They occur mainly on soft substrates but have also been found on rocky bottoms. They are probably omnivorous, although animal food (sessile, sedentary, and mobile invertebrates, and small fish), including dead material, is their predominant food. Their principal predators are fish and seals.

Sexes are separate in all species of king crabs and they appear to be seasonal spawners, probably spawning in summer or autumn.

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 king crab fishstock.

4.2 Biomass estimates
There are no biomass estimates for any king crab fishstock.

4.3 Yield estimates and projections
There are no estimates of *MCY* and *CAY* for any king crab fishstock.

5. STATUS OF THE STOCKS

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

6. FOR FURTHER INFORMATION

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