



## Ministry of Fisheries – Marine Biosecurity

### *ACTION PLAN FOR UNWANTED SPECIES*



#### **European green crab (*Carcinus maenas*)**

Photo courtesy of Thomas Niesen

#### Summary

The broad diet and wide environmental tolerance of the European green or shore crab (*Carcinus maenas*) have enabled it to successfully invade numerous coastal communities outside of its native range. This crab has adversely affected the local biota in many areas where it has been introduced.

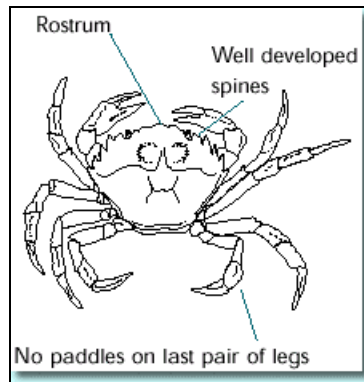
Larval and juvenile stages of the crabs can be transported in ballast water; therefore, there is a significant risk of introducing the European green crab to New Zealand.

The Ministry of Fisheries is taking the following steps to decrease the risk of the European green crab establishing in New Zealand:

- Reducing the risk of the crab arriving in New Zealand by amending the ballast water Import Health Standard
- Increasing the chances of detecting the crab if it arrives by determining the European green crab unwanted and notifiable; targeting this species in the national surveillance programme; and disseminating information on the crab to the public
- Increasing our understanding of the crab and how to respond to an incursion.

## Description

The European green crab is a medium-sized crab with a carapace (body) width of up to about 9 cm. The crab has five distinctive spines on either side of the eyes on the front end of the carapace. The upper carapace is mottled dark brown to dark green in colour, with small yellow patches. The underside varies in colour from green to orange or red.



*Carcinus maenas*

## Biology

The European green crab reproduces between July and November (Europe and South Africa) and from July to October (Maine, USA). Mature females can produce up to 250 000 eggs, twice in one season. The planktonic larval stage of the European green crab lasts between 17 and 25 days.

The European green crab consumes a variety of prey, including bivalves, gastropods, polychaetes, algae and fish. Adults generally feed in the top few centimetres of sediment, although they have been observed digging pits up to 15 cm deep to feed on large clams.

## Distribution

The European green crab is native to European Atlantic coastlines from Norway to Mauritania, including the British Isles. It has been introduced to the western Atlantic, Australia (Port Phillip Bay, Victoria, South Australia and New South Wales), San Francisco Bay, and South Africa.

The green crab is found in protected marine and estuarine habitats on rocky shores, cobble beaches, sand flats, mud, and in seagrass beds and marshes. It

usually occurs in subtidal areas down to 6 m but has been reported as deep as 60 m.

The European green crab tolerates a wide range of salinities (4 to 34‰) and can breed in waters around 13‰, although larvae are reported to require salinities of at least 17 to 19‰ to metamorphose and settle. The crab inhabits areas ranging in temperature from 0 to 30°C. Successful reproduction occurs at temperatures between 11 and 25°C.

## Vectors

European green crab larvae and juveniles can be transported in ballast water, vessel seachests (the cavities around the water intake area of a vessel) or with aquaculture species.

## Impacts

The European green crab is a voracious predator with a broad diet and has been implicated in the decline of native shellfish populations, including some commercially important species. The European green crab may outcompete native crab species. Competition is also possible with other benthic predators including invertebrates, fish and birds. Changes in infaunal populations have occurred as a result of sediment disturbance from the digging activities of the European green crab.

## Action Plan

The Ministry of Fisheries is taking the following steps to decrease the risk of the European green crab establishing in New Zealand:

- Reducing the risk of the European green crab arriving in New Zealand by amending the ballast water Import Health Standard (IHS). The IHS will be amended by adding high-risk areas where the European green crab is present to Annex 1 (ballast water from areas in Annex 1 of the IHS cannot be discharged into New Zealand waters under any circumstances)
- Increasing the chances of detecting European green crabs if they arrive by determining *C. maenas* unwanted and notifiable (declaring an organism to be notifiable places a duty on any person who becomes aware of the presence of the organism in a new place to notify the Chief Technical Officer); targeting this species in the national surveillance programme; and disseminating information on the crab to the public

- Increasing our understanding of this species and how to respond to an incursion by developing a risk profile and an incursion response plan.

#### What you can do:

Do not bring European green crabs into New Zealand for any purpose. Vessels travelling between Australia and New Zealand should be cleaned regularly to avoid the translocation of marine pests. Report any suspected sightings of European green crabs to the Ministry of Fisheries.

#### Contact Details

For further information on this action plan or any marine biosecurity issue please contact:

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