

AQUATIC INVADERS



COMMON NAME: European green crab

SCIENTIFIC NAME: *Carcinus maenas* (Linnaeus, 1758)

NATIVE DISTRIBUTION: Europe and northern Africa.

U.S. distribution: First recorded in 1817 along the eastern seaboard, it is thought to have been introduced through shipping. It now occurs from North Carolina north to Nova Scotia. In 1961, the crab first appeared on the west coast in Washington; however it did not become established at that time. In 1989 it was again introduced on the west coast, this time in San Francisco Bay and has since been spotted north throughout parts of Oregon, Washington and even British Columbia. The green crab has also successfully invaded parts of South America, Asia, South Africa, and Australia.



Habitat: This small shore crab is abundant in shallow waters from the upper intertidal to the shallow subtidal zone. It has a wide salinity tolerance occurring in estuaries and areas well upstream from river mouths.

Life cycle: When the female becomes sexually mature and approaches her annual molt, pheromones are released to attract males. The males attach themselves to the females and defend her from predators and form rival males. This is termed pre-molt cradling. Females can spawn up to 185,000 eggs at a time. Green crabs have six larval stages: the protozoa hatching stage, four zoea feeding stages, and the megalopa or transitional stage between the planktonic larval and the sedentary adult form. Development lasts between one and two months depending on water temperatures. While the larvae are dispersed they can tolerate a wide range of temperatures (41-86°F) and salinities (20 to 30 parts per thousand). Female crabs live for approximately 3 years and males up to 5 years.

Cool facts:

- The green crab is not always green; some studies have shown that red crabs dominate the subtidal zone and green the intertidal zone and salt marshes.
- Other studies indicate that the color of the shell may be due to the amount of time the crab spends between molting stages.

- Distinguishing features that can set green crabs apart from crabs native to U.S. waters are the array of five evenly spaced triangular spines on either side of the eyes, and the three rounded lobes between the eyes.

Pathways of invasion: Given the length of the larval development phase and wide environmental tolerances, it can be expected that local currents, shipping, and recreational boating activities are important pathways in the spread of the species. The green crab is also often used as bait and can escape or be released.

Impacts: This is a voracious omnivorous species and will consume many species of shellfish, algae, polychaetes, and crustaceans. Intense predation and competition can alter the community structure and ecological balance in an ecosystem.

The green crab is thought to have ruined the soft-shelled claming industry in the northeast U.S. in the 1950s.

Ways to prevent its spread:

- Never dump your bait bucket into any water body.
- Good boat hygiene is critical – boats that have been washed with warm, soapy water or mild bleach are less likely to spread non-natives.
- Drain water from boat motors, live wells, bilges, and transom wells while on land before leaving a water area.
- Report invasive species to local officials and the USGS online at <http://nas.er.usgs.gov/> or by calling 877-7867-267 (877-STOP-ANS).

These tips apply to ALL non-native species.

Don't forget: Use native bait when fishing, and always clean your boat after use.
