

THE INVASION...

EUROPEAN GREEN CRAB



Aquatic invasive species (AIS) are non-native aquatic plants or animals that, once introduced to an area, can cause harm to ecosystems, native species, and the economy. Once established, these species may become almost impossible to eradicate and have implications for local fisheries, aquaculture operations, recreational activities, and even infrastructure. Four AIS are found in Newfoundland and Labrador waters, including the European green crab (*Carcinus maenas*) which is considered one of the top 100 worst invasive species in the world.

Aggressive and territorial, green crab can dramatically reduce populations of native species due to successful competition for resources and its voracious predation on juveniles (clams, mussels, scallops, oysters, other crustaceans, and even some fish). Green crab is credited with damaging shellfish fisheries elsewhere in the world and can even threaten shore birds who share a similar diet. It can destroy habitats such as eelgrass beds (nurseries for species such as cod and lobster) as

it burrows and digs into the substrate, cutting the eelgrass roots. Add in a lack of natural predators and ability to reproduce rapidly, and green crab quickly becomes a threat to coastal ecosystems and the communities they support.

The introduction and spread of green crab is aided by natural and human activities, including transport of larvae in ballast water (likely source of introduction to Newfoundland and Labrador), on ships' hulls, movement of fishing gear and boats, shipment of live organisms, release of by-catch species outside the area of capture, and ocean currents. Native to the Atlantic coast of Europe and Northern Africa, green crab, with its wide tolerance to environmental conditions, is now globally dispersed on the coastlines of five continents.

While originally identified in North America in the early 1800s, it was not discovered in Newfoundland and Labrador until 2007, following a Placentia Bay Integrated Management Planning Committee meeting. The committee, which supports information sharing and conflict resolution between stakeholders on bay-wide issues, was given information on the potential threat of AIS to the area. A fish harvester, using the AIS identification

cards distributed at the meeting, soon made the discouraging discovery; green crab had arrived in Placentia Bay. A year later it was found on the west coast of the island in St. George's, followed by Bonne Bay in 2010.

Immediately after its discovery, assessment surveys were conducted in partnership with DFA, DFO and MUN, which found large concentrations of green crab in North Harbour and smaller populations throughout Placentia Bay. A 2008 project with the Fish, Food and Allied Workers resulted in 350,000 green crabs being caught at four locations over a two-week period by two harvesters (each pot yielding an average of 170 crabs!). Local students were also involved, collecting specimens from the beach. This year DFA is partnering with DFO and the aquaculture industry to look at population dynamics and impacts to shellfish. The discovery of green crab in Placentia Bay demonstrates how integrated coastal management can help elicit action on an issue and strengthen partnerships.

To raise awareness, AIS posters, key chains and fact sheets have been distributed around the province. Unless controlled, green crab will have a significant impact on marine biodiversity and coastal habitat in Newfoundland and Labrador waters. Responding to this threat is a shared responsibility, requiring collective efforts. In June 2011, DFA released the provincial Coastal and Ocean Management Strategy and Policy Framework, which identifies the need for a coordinated approach to prevent and mitigate the introduction of AIS. DFA will continue to work with partners on this important issue.



Did you know?

Green crab has been called "**cockroach of the sea**" because of its ability to survive such extremes as:

- living out of water for up to a week – in the sun!
- surviving in fresh water for short periods of time
- tolerating 0-30°C temperatures

Interesting fact

Green crab can rotate its claws over its back to defend against predators attacking from behind.

Other AIS in Newfoundland

Golden star tunicate, violet tunicate and crusting bryozoan

Stop the Invasion of AIS

Recognize – Remove – Report

Call: 1-866-266-6603

Email: AIS-EAE@dfo-mpo.gc.ca

www.nfl.dfo-mpo.gc.ca/AIS-EAE

European green crab

Size: carapace width up to 10cm

Colour: range from bright green to brown or red

Life span: four-seven years

Spawning: up to 185,000 eggs per female each year

Prey: mainly molluscs, worms and other crustaceans

Habitat: protected and semi-protected marine and estuarine habitats, with mud, sand, or rock substrate

Similar species: Rock crab