



Common Marine Exotic Crabs



Waves splash against the cobblestone shore as gulls circle above looking for food. Small crabs of different sizes scurry in and out of their homes under the periwinkle covered rocks. A rock is lifted and armies of them scurry away to the depths and crevices of neighboring rocks. If you are fast enough, you might just be able to pick one up! What is it? Most likely, this crab is an exotic species like many of the other crustaceans on the beach. Next time you walk across a cobble beach, lift up a rock and explore the creatures hidden beneath!

NPS Photo, Erika Nicosia

Asian Shore Crab

There are currently two exotic crab species that have become well established along our North Atlantic coast; the Asian Shore Crab and the European Green Crab. *Hemigrapsus sanguineus*, also known as the Asian Shore Crab, is native to the western pacific and was first recorded in the United States at Townsend Inlet, Cape May County, New Jersey in 1988. Like many exotics, this species was most likely introduced through the discharge of ballast water from the hulls of ships. The breeding season of the Asian Shore Crab takes place between May and September which is twice the length of our native North American crab species. Females can produce up to 50,000 eggs per clutch and have 3-4 clutches each season. Their larvae free-float for almost a month, allowing the offspring to easily be transported into different areas far from where they hatched. These reproductive advantages help the species thrive, making it easier for them to out-compete native species such as the blue crab and rock crab for food and habitat.



The Asian Shore Crab is listed among the 100 "world's worst alien invasive species" by the Invasive Species Specialist Group. It feeds on a variety of molluscs, worms and small crustaceans, impacting a number of fisheries.

Photo by Jean-Paul Vanderperren via WoRMS Image / CC3.0

European Green Crab

Another exotic crab species found along our coast, is *Carcinus maenas*, also known as the European Green Crab. It is native to the Atlantic coast of Europe and Africa, and was introduced to the United States near Cape Cod in the mid 1800s. In 1989, the species was first found on the west coast in the San Francisco Bay. Like the Asian Shore Crab, the European Green Crab was likely introduced via ballast



Photo by Fisheries and Oceans Canada via

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water or hidden in packages of kelp and worms being shipped to the US. This species reaches maturity at 2-3 years of age. Their breeding season is July through October and they will mate up to three times each year. Scientists believe that deeper waters attract females with eggs because of the more constant salinity levels. A single crab can consume up to 40 half-inch clams a day, as well as crabs its own size. In Humbolt, California, research has shown a 40% decrease in the harvest of Manila clams after this crab species became established. European Green Crabs are capable of adopting new hunting skills, and are faster and more agile than native crabs. These traits allow the species to be more successful and out-compete other species.

Is it an Asian Shore Crab or a Green Crab?

Asian Shore Crab

(*Hemigrapsus sanguineus*)

Physical Description:

- 3 lateral spines on each side of a square-shaped carapace (shell)
- Color variable: commonly orange-brown, also green and maroon
- Carapace width up to 2 in (5 cm)
- Light and dark bands on legs with red spots on the claws
- Larger males have fleshy bulb at the base of pinchers

Habitat Preference:

- Occurs primarily in mid to low intertidal zones and the subtidal zone
- Prefers rocks and cobble, but may also be found in soft sediments
- Tends to aggregate in high densities under rocks
- Tolerates a wide range of salinities and temperatures

European Green Crab

(*Carcinus maenas*)

Physical Description:

- 5 lateral spines on each side of carapace (shell)
- Color variable: Green, reddish orange, or tan carapace with darker molting
- Carapace width up to 3.6 in (7.6 cm)

Habitat Preference:

- Occurs in the lower intertidal and nearshore subtidal zones, usually on mud, sand, or pebbles
- Prefers sheltered areas
- Common in salt marshes, sandy beaches, and rocky shores
- Able to tolerate a wide range of salinities (as low as 6ppt)



Asian Shore Crab, *Hemigrapsus sanguineus* (top), and European Green Crab, *Carcinus maenas* (bottom).

NPS Photo, Erika Nicosia

What can we do?

Unfortunately, there is no absolute way to prevent the spread of these exotic crab species once they have been established, but regulating how they are being introduced such as banning the discharge of ballast water from incoming ships, is critical to controlling new introductions. Although there is no clear way to eliminate species that have established themselves here, it's important to monitor the presence and abundance of these crabs in our National Parks.

More Information

Northeast Coastal and Barrier Network
<http://science.nature.nps.gov/im/units/ncbn/>

The Northeast Aquatic Nuisance Species Panel
<http://www.northeastans.org/>

Salem Sound Coastwatch
<http://www.salemsound.org/>

USGS-Southeast Ecological Science Center
http://fl.biology.usgs.gov/Nonindigenous_Species/Asian_shore_crab/asian_shore_crab.html

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