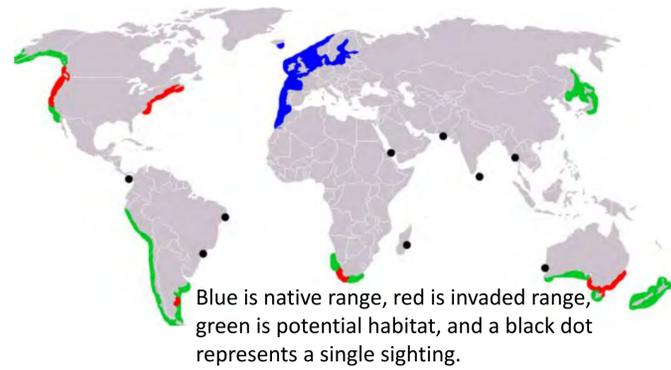


# Monitoring for Invasive Green Crab in Cordova

By Sarah Hoepfner

## European Green Crab

The European Green Crab is native to Europe and North Africa. They are able to grow up to a four inch carapace and are distinguished by their five small spines on each side of their eyes. It was first found on the East Coast in Massachusetts in 1817 and in San Francisco Bay in 1989 for the first time on the west coast. In 1997 it made its way to Oregon, in 1998 Washington, and 1999 British Columbia. The Green Crab can live in many areas from mud to sand to rocks and are not easily affected by salinities. They are transported by ballast water, ship's hulls, currents, and aquaculture equipment. Their main foods are clams, oysters, and mussels. This has caused problems for native species populations and fisheries to decline.



<http://alaskafisheries.noaa.gov/newsreleases/2006/invasive122006.htm> <http://www.rimeis.org/species/images/cmaenas.png>

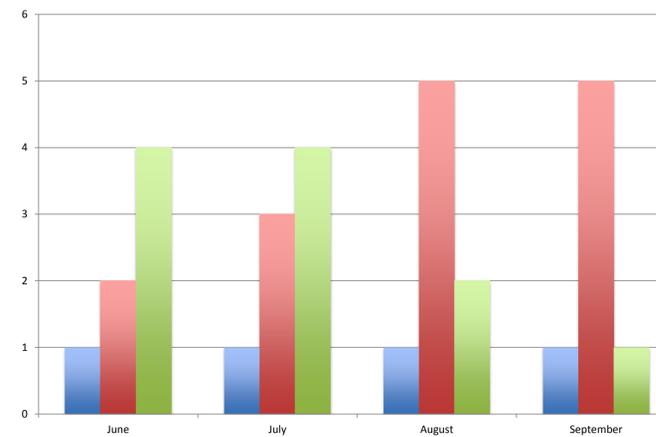
[http://upload.wikimedia.org/wikipedia/commons/a/ad/Carcinus\\_maenas\\_range.png](http://upload.wikimedia.org/wikipedia/commons/a/ad/Carcinus_maenas_range.png)

## Results

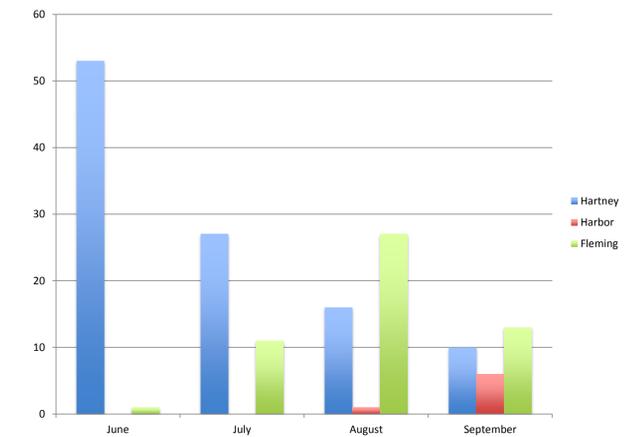
Throughout the summer, no green crabs were found at all. The main species found was sculpin, with a total of 175 all summer. The only crabs found were helmet and decorator crabs with 4 and 2, respectively. Other species include flounders, spotted shrimp, snails, and hermit crabs. Others included snake prick back, white spotted greenling, blenny eel, grealy, and a sea star. The most variety of species were in the Harbor and the least at Hartney Bay, with only sculpin. Throughout the summer there were also no crabs in the minnow traps.

This data shows that no crabs are likely to have arrived in these areas at this point. Due to the threat of their invasion, monitoring should continue to increase the awareness of their arrival. This data can be used as a baseline in case they do arrive to measure how much they change the ecosystem.

Number of Species Per Site



Sculpin per Summer



## Methods

To monitor for the European Green Crab, I set out traps once a month May-September at three different sites: Hartney Bay, in the Harbor underneath the Science Center Dock, and Fleming Spit. At each site I put out five rectangular crab traps and one cylindrical minnow trap. The traps go out at a low tide of at least -1 foot and are picked up the next day at about the same time. Each trap gets half a herring as bait and is tied down to a stake. For each trap I record each species, how many there are, and how big each one is.



An eel in the bait

At Fleming Spit with a sculpin



Monitoring sites



Site at Science Center Dock



Two traps at Fleming Spit



Snake pricklebacks in minnow trap



Sculpin in trap



Helmet Crab



Greenling



Setting up traps at Hartney Bay



Two Helmet crabs



15 inch star fish



Traps lined up at Hartney Bay



At Science Center Dock



Sculpin

## Future Plans

My next plans are to increase the monitoring throughout the area and include more volunteer monitors. I would like to possibly add a few more locations, including another one in the harbor and one near the marina, to maximize the amount of the region being observed. I also want to implement monitoring for things like sea star wasting disease.

To include more of the public, I am going to work with both the Elementary and High schools to explain invasive species and what they can do to help. At the High School I will work with the Biology and Marine Biology classes teaching them more specifically about what I do. I will also try to get the students to join me for the May monitoring depending on the school year and/or the tunicate monitoring in April. Another plan is to give a presentation at the weekly Forest Service talks for the community about invasive species.