Crustaceans

Important crustaceans that occur at Canaveral National Seashore (CANA) are the blue crab, ghost crab, fiddler crab and barnacle. The horseshoe crab is also included in this section although it is not actually a crab, but in a class more closely related to spiders. The **blue crab** (*Callinectes sapidus*)plays a key role in the ecology of Mosquito Lagoon because of its abundance, broad diet, and importance as prey to numerous other species. It is heavily preyed upon by virtually all carnivorous animals large enough to catch and ingest them, including threatened and endangered species such as loggerhead and Kemp's Ridley sea turtles, many wading birds, fishes, dolphins and raccoons. The blue crab is also harvested commercially and recreationally. Crab pot floats can be seen in many places in Mosquito Lagoon. The number of people commercially harvesting crabs has tripled in the last 10 years. Researchers are unsure whether a decline in crab numbers is due to natural cycles, pollution, changes in salinity, increase in red drum that prey on the crab, or a combination of these factors. Although a female blue crab can carry 750,000 to eight million eggs on her underside, it is estimated that only one in a million will survive to adulthood. For this reason, Florida law requires that females bearing eggs be returned to the water.

The **American horseshoe crab** (*Limulus polyphemus*) while an Arthropod like the crabs, is actually in the class Meostomata. It is an important food source for many species, including the loggerhead sea turtle, migrating shorebirds, and many species of fish. The horseshoe crab aerates the bottom substrate with its plow-like feeding action, enhancing species diversity and abundance. Because of its importance, park managers are concerned over signs that the population has sharply declined over the past twenty years. This may be an indication of profound environmental disturbance in the lagoon and related to a decrease in juvenile loggerhead sea turtles in the lagoon, which feed on the crab. Research to investigate this phenomena, while inconclusive, has revealed a unique adaptation by the local population to the lack of of tidal activity in Mosquito and Indian River lagoons. Unlike horseshoe crabs in areas with significant tides, spawning is irregular and does not follow high tides associated with full and new moon events.

Horseshoe crabs have also declined drastically in other estuaries along the Eastern Seaboard where they are harvested for conch bait and medical use. Horseshoe crabs have blue, copper-based blood that clots when exposed to endotoxins, which are chemical poisons released by certain bacteria.

Pharmaceutical companies can extract the blood, isolate the chemical responsible for clotting and use it to test the sterility of fluids intended for use on human patients. Human harvesting is not a significant factor at CANA. One possible factor may be power plants in the nearby Indian River Lagoon where horseshoe crabs become trapped on intake water flow screens and are discarded during the cleaning process.

A prominent resident of the beach is the **ghost crab** (*Ocypode albicans*). The white coloration enables it to blend in with the sand. The crab can sometimes be seen during the day darting to the protection of its burrow when people approach. It generally emerges at night to forage on mole crabs (sand fleas), dead fish and debris along the water's edge. Of importance to park managers is its habit of preying on sea turtle hatchlings as they emerge from their nests and crawl towards the ocean. It will also burrow into nests to predate eggs. Notice the many ghost crab tunnels leading into the nests. The raccoon plays an important role in helping to control ghost crab populations.

On exposed mud flats, you may catch a glimpse of many little creatures scurrying to the safety of their burrows as you approach. These are **Fiddler crabs** (*Uca* spp). Just wait quietly and they will soon re-emerge. The males have one claw, usually the right, which is enormous in size compared to the other. They wave their large claw back and forth, while sitting at the mouth of their burrows to attract passing females. Fiddler crabs play an important role as prey for many larger animals. They also aerate the soil with their burrows which stimulates the growth of marsh plants. Good places to see them are along the lagoon shore at Eddy Creek and Seminole Rest.

The **barnacle** (*Balanus* spp) looks more like a tiny clam or oyster than a crustacean but it does have jointed appendages that it extends from its shell to capture tiny sea animals. It is not native to the area and only arrived in the ballast of ships within the last hundred years. They are important because they can often out compete oyster spat (young oysters) seeking substrate to settle on. Recent experiments in Mosquito Lagoon have shown barnacles will occupy almost 100% of experimental substrate set out during the fall months.