

Sand Crab

History of the Fishery

The first complete commercial catch records for sand crabs (*Emerita analoga*) were collected in 1963, when 4,673 pounds were landed. By 1967, reported landings totaled over 8,300 pounds of sand crabs worth \$17,152 to fishermen. Since 1977, catch records indicate a greatly reduced utilization of sand crabs for bait; the annual catch has ranged from zero to 96 pounds averaging only 22 pounds per year. This reduced catch should not be interpreted as a reduction in the size of the sand crab population. Sand crab populations are still robust, though they fluctuate annually depending on oceanic and climatic conditions. Instead, the reduced catch is probably due to reduced harvest effort and replacement of sand crabs with other bait such as ghost shrimp, clams and mussels.

Sand crabs are collected in 30 to 36-inch wire mesh nets by sport and commercial fishermen. Mesh size varies from 0.25 to 0.50 inch. The fishermen wade into the surf and place the net on the bottom as a wave begins to recede. The backwash carries the sand crabs into the net, from which they are removed and placed in a container held on a belt around the fisherman's waist. Usually only "soft shelled" crabs (those that have molted recently) are saved. Commercial fishermen usually sell sand crabs by the dozen. The size of sand crabs varies widely depending on season and location where they are taken. Because of this, the price per dozen may go up or down based on the size of the crabs available. Demand for sand crabs is often higher through the winter months because of weather-related shifts in fishing effort from offshore species to nearshore species. The demand is also increased when bait stores sponsor perch fishing contests. In winter, when soft-shelled sand crabs are difficult to find, hard-shelled crabs are also sold. These are often sold by the gallon (further complicating commercial catch landing records).

Based on recent catch records, there appears to be potential for expanding the current market for sand crabs as bait.

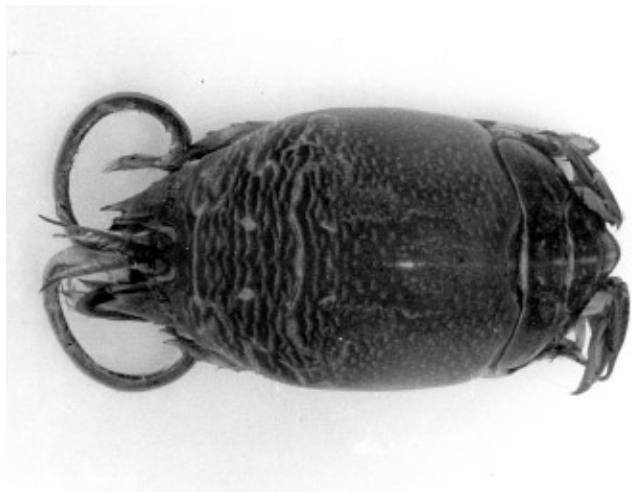
Status of Biological Knowledge

The sand crab occurs from British Columbia to Magdalena Bay, Baja California. Although found on nearly all open-coast sandy beaches, there are gaps in this range where no sand crabs can be found.

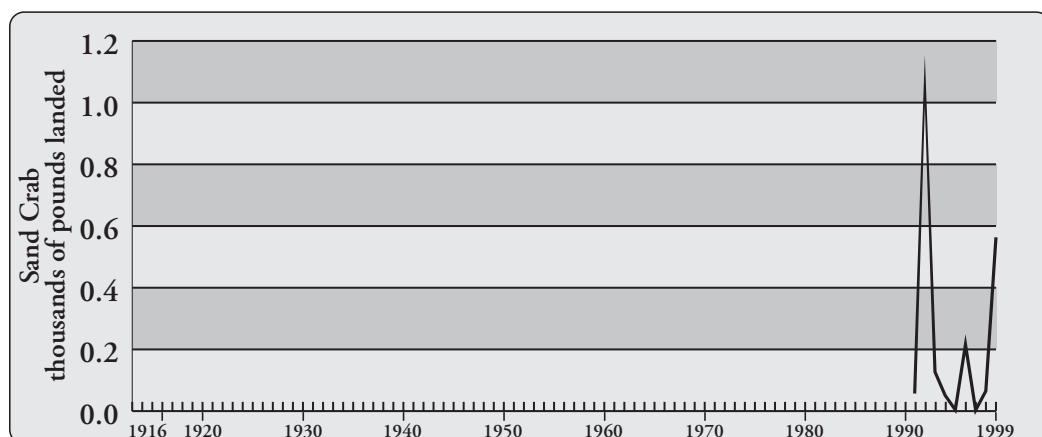
When feeding, sand crabs burrow tail-first into the sand leaving only the tip of their heads and their large, feathery antennae protruding. The antennae are extended into the backwash of a receding wave and strain food particles from the water. Food particles are transferred to the mouth by wiping the antennae through the mouthparts. The extended antennae produce characteristic V-shaped ripple marks on the beach that indicates the presence of sand crabs.

Mating occurs mostly in spring and summer, but some mating and egg-bearing females are seen year-round. Females are larger than males, reaching 1.5 to two inches in length; males seldom exceed 0.75 inch. A two-inch female may produce as many as 30,000 eggs. The number of eggs varies with the size of the animal as well as with temperature and food availability. The eggs are carried on the female's abdomen (pleopods) until hatched. It takes the young two to four months to pass through nine to ten larval stages before they resemble adults. During their various larval stages the young *Emerita* drift at the mercy of the currents and may be carried for long distances. Shifting currents, which carry the larvae "off course," may account for population fluctuations on a given beach. In southern California, the megalops larvae arrive on the beach in the greatest numbers from April to July. Sand crabs reproduce during their first year of life in southern California, and may not live more than two or three years. Sand crabs that settle in sub-optimal habitat may not survive their first winter. Sand crabs in colder waters might not reproduce in their first year.

Shore birds, sea gulls, surf scoters, otters and other marine mammals include sand crabs in their diet. In addition, many fish eat sand crabs, including surf fish such as corbina, yellowfin croaker, spotfin croaker and barred surfperch. For this reason, they make excellent bait for sport fish, especially for fishing from sandy beaches. They also make good bait for fishing from rocky shores or breakwaters for opaleye.



Sand Crab, *Emerita analoga*
Credit: DFG



**Commercial Landings
1916-1999, Sand Crab**
Data Source: DFG Catch
Bulletins and commercial
landing receipts. Landings data
not available prior to 1992.

Status of the Population

The reported harvest in 1967 was 8,303 pounds or about two million sand crabs. Most of the catch came from about 20 miles of beach in the southern part of the state. Southern California has more than 200 miles of sandy beaches, and the total population of sand crabs, while undetermined, is extensive. Since only the recently molted, soft-shelled sand crabs are usually taken and the hard-shelled crabs are returned, there is little danger of overfishing. A high market demand for hard-shelled crabs, however, perhaps for purposes other than bait, could result in a fishery that would be detrimental to the population. Though extensive in range, sand crabs are vulnerable to capture because of their habit of forming dense aggregations near piers and jetties, especially at night. Although population sizes are not well known, and the number of sand crabs on any given beach may fluctuate from year to year, the resource appears to be in good condition. Although sand crab commercial landings have been low in recent years, casual observations indicate that the population is as strong as it was in the 1960s. There does not appear to be any reason why annual harvests could not equal the 8,000 pounds that were harvested in 1967 when no apparent detriment to the population was detected.

Management Considerations

See the Management Considerations Appendix A for further information.

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