



Dungeness Crab

The **Dungeness crab** (*Cancer magister*) is a popular shellfish that inhabits bays, estuaries, and the nearshore coast of Alaska. The Dungeness crab is named after one of its representative habitats—a shallow, sandy bay inside of Dungeness Spit on the south shore of the Straits of Juan de Fuca. It is widely distributed, however, and can be found as far north as Cook Inlet and Prince William Sound and south to Magdalena Bay, Mexico. This crab supports both a commercial fishery and a personal use fishery in Alaska. Dungeness crabs are related to shrimp, lobster, and other crabs. The Dungeness crab has a broad, oval body covered by a hard chitinous shell. It has four pairs of walking legs and a pair of claws. This species can be distinguished from other commercially important crabs (king and Tanner crabs) because its legs are much smaller and shorter in relation to its body size and it has no spines on the top side of its carapace (shell).

Reproduction and life history: Dungeness crabs mate from spring through the fall. The male crabs are polygamous—each male crab may mate with more than one female crab. This may be an important factor in maintaining the reproductive viability of this species because only male crabs can be harvested in commercial and personal use fisheries. Male crabs mate only with female crabs that have just molted (shed their old exoskeleton). Fertilization of the egg does not occur at the time of mating. The female crab stores the sperm until her eggs are fully developed. The eggs are fertilized when the female extrudes them under her abdomen where they are carried until hatching. A large female crab can carry 2.5 million eggs.

After hatching, the young crabs are planktonic and swim freely away from the female. Larval development takes from 4 months to as long as a year in Alaska. Six successive stages (5 zoea and 1 megalopa) occur before the crabs molt into the first juvenile stage. These crabs grow each time they molt. During the first two years both sexes grow at similar rates but after two years the female crabs grow more slowly than the males. Sexual maturity may be reached at three years. At 4 to 5 years of age, a Dungeness crab can be over 6 1/2 inches in shell width and weigh between 2 and 3 pounds. A large male Dungeness crab can exceed 10 inches in shell width. The estimated maximum life span of this crab is between 8 and 13 years.

Dungeness crabs are widely distributed subtidally and prefer a sandy or muddy bottom in salt water. However, they are tolerant of salinity changes and can be found in estuarine environments. The crab are generally in waters shallower than 15 fathoms, but they have been found in depths down to 100 fathoms.

Dungeness crabs foraging behavior coincides with their habitat. These crabs scavenge along the sea floor for organisms that live partly or completely buried in the sand. They are carnivores, and their diet can include shrimp, mussels, small crabs, clams, and worms.

Commercial fishing: The Alaska Fishery and Fur Seal Industries publication made the first historical reference to the Alaska Dungeness crab fishery in 1916. This crab was first commercially canned at Seldovia in 1920. Today, Dungeness crab is processed by shorebased processors, catcher processors, and floating processors. The crab are sold whole or in sections as a fresh or frozen product.

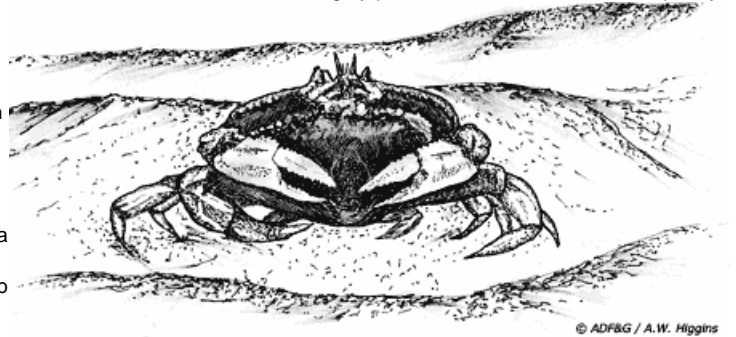
Dungeness crabs are often caught by commercial fishers in circular pots typically baited with herring, squid, or clams. Pots are usually about 40 inches in diameter and 14 inches high. They are constructed of 3/4-inch round, steel frames wrapped in rubber tubing then covered with stainless steel wire mesh woven in 2-inch squares. Two 4-3/8" diameter escape rings are required to be built in each pot to keep the pot from filling with undersize crabs.

The number of pots that can be set by a vessel and the fishing season varies by management area in Alaska. Throughout Alaska, only hardshell male Dungeness crabs over 6 1/2 inches in shell width may be harvested. The sex of a Dungeness crab can be determined by examining the abdomen: the abdominal flap of a female crab is about 1 1/2 times as long as it is wide and has a much broader base than a male crab which has an abdominal flap generally twice as long as it is wide.

Personal use: Residents of Alaska may harvest Dungeness crabs for personal use. This fishery is often incidental to recreational boat outings. Crab pots similar to those used in the commercial fishery, ring nets, diving gear, dip nets, and hooked or hookless handlines can all be used to harvest crab for personal use. Dungeness crabs are sometimes stranded by minus tides and can be picked up by an observant beachcomber. Be forewarned, the mighty pincers of this crab can move quickly and catch you unaware!

Personal use anglers fish at depths between 3 and 20 fathoms where more "keepers," male crabs greater than 6 1/2 inches wide, seem to be found. They usually bait their pots with the most convenient bait, fresh fish carcasses. The number of crabs that can be kept varies from 5 to 20 per person, depending on the area fished. To take more than you can use is a waste and a shame, because the Dungeness crab is one of the grand fringe benefits of coastal Alaska.

Cooking crab: Dungeness crabs are usually boiled for approximately 20 minutes. As a cautionary note, paralytic shellfish poisoning (PSP) has been found in the internal organs of Dungeness crab, therefore, do not eat the internal organs including the "crab butter" (hepatopancreas). Where or when the toxin is found is unpredictable, but high levels have been found throughout Alaska in Dungeness crab. Take this one precaution and continue to enjoy one of Alaska's tastiest seafoods.



Text: ADF&G Staff

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Revised and reprinted 1994