

# Marine Life in Whatcom County

## Shellfish Series

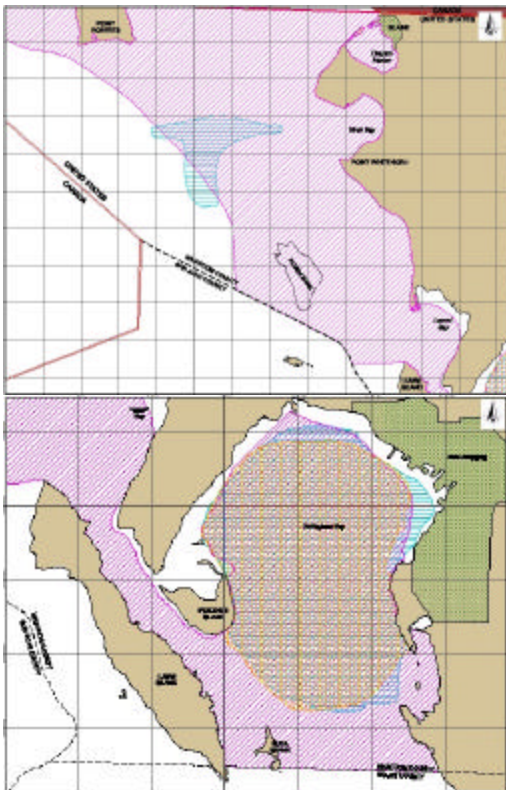
### Dungeness Crab (*Cancer magister*)

**Description:** This crab has a purple tinged, grayish-brown back with a cream-colored underside. Mature Dungeness crabs are typically 6-7" across. Dungeness have several pairs of appendages. Two pairs (antennae) are for touch and smell. A number of modified appendages act as a mouth, used for cutting, picking, sorting and pulverizing food. The pincers, the most recognizable appendage, are used for grasping, tearing and defense. Each crab has four pairs of walking legs. A sideways walker, a crab will push with four legs on one side and pull with the other side. Appendages are also located on an up-tucked tail; the female uses these appendages to hold onto her eggs. Crab are able to regenerate lost appendages.



*Dungeness crab in eelgrass.*

*Photo: Whatcom County Water Resources*



*These Whatcom County maps were created by Anchor Environmental using data provided by Washington State Department of Fisheries. The pink areas indicate Dungeness crab habitat.*

**Distribution:** The range of the Dungeness crab extends from Alaska to southern California. Found on sandy and muddy bottoms, they can live from the nearshore to depths of more than 100 feet. Dungeness crab are generally abundant in Whatcom County. In the maps to the left, Dungeness crab habitat in Whatcom County is indicated in pink.

**Reproduction:** Mating occurs between hard-shelled males and recently molted, soft-shelled females, generally in the late spring and summer. Male crabs are polygamous- they mate with more than one female crab. Females store the fertilized eggs for several months under their abdomen until the eggs hatch (between February and April). Large females can carry more than 2.5 million eggs. For the first 90-120 days after hatching, Dungeness crabs are free-floating planktonic larvae. Larvae settle down onto the bottom of an estuary or nearshore environment between June and September, where they molt into recognizable crabs. Crabs can molt as many as ten times in their first year.

**Ecology:** Dungeness are both predators and prey throughout their lives. They feed on fish, shrimp, and clams and are a food source for fish (e.g. halibut, dogfish, hake, lingcod) and octopus. Crabs will also eat other crabs. A hard shell and pincers are a crab's main methods of defense.



Female crab with her eggs. Large females can have over 2.5 million eggs on their abdomen.

Photo: WDFW

A hard shell is necessary to protect the crab and to function as a skeleton, but once a shell hardens, the crab cannot grow any larger. Growth can only occur with shedding of the shell (molting). The crab will first begin to grow a soft shell and then backs out of its hard shell through a crack. Shedding the hard shell takes about 15 minutes, but it takes approximately two months for the newly developed soft shell to harden. During this period, crabs are vulnerable to predators and tend to hide in the sand or mud. The crab's newly formed shell is usually 11-29% bigger than the previous shell. A mature crab molts about once a year.

**Economic Value:** Dungeness crab support a valuable commercial and sport fishing industry in Whatcom County. Dungeness crab are the only commercially significant crab harvested in Washington. Only males of a specified size are legally harvested to ensure a stable population base for reproduction. The Puget Sound District (which is mainly located north of Everett and includes Whatcom County) harvests about one million pounds of crab a year.

**Sources:**

Anchor Environmental. 2001. Marine Resources of Whatcom County.

Niesen, T.M. 1997. Beachcomber's guide to marine life of the Pacific Northwest. Gulf Publishing Company: Houston. 160 p.

WDFW Dungeness Crab Fact Sheet.

<http://www.wa.gov/wdfw/fish/shelfish/beachreg/4clam.htm#Dung>

WDFW European Green Crab Fact Sheet.

<http://www.wa.gov/wdfw/fish/ans/greencrab.htm>

**For More Information:**

Whatcom County Marine Resources Committee

(360) 676-6876

<http://whatcom-mrc.wsu.edu/MRC/index.htm>

**Current Status**

The state of Dungeness crab in Whatcom County and the rest of Washington is fairly healthy. However, increasing harvests of Dungeness crab have placed extra pressure on the population.

Threats to crab habitat include shoreline development (bulkheads), loss of eelgrass beds, pollution and competition with invasive species. One species in particular, the European green crab (*Carcinus maenas*), has been shown to out-compete Dungeness crab of similar size for food and habitat. Although the European green crab population is currently fairly small in Washington, if it were to greatly increase, the Dungeness crab could lose more valuable habitat, thus placing additional pressures on the population.



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