

STATION 1B

what's going on?

Something strange has been going on at the Oregon Coast. **Fisher Crabbins** takes us out on his boat to his usual crabbing spot. He drops his crab “pot”, or basket with bait, into the water. After waiting, we help him pull it back up onto the boat. But the crab pot is empty. This is bad for the fisherman, who sells his catch to the local restaurants for tourists to eat.

Fisher decides to reach out to a marine scientist, **Dr. Seeksalot**, at Oregon State University because this has been happening more often, especially during the summer. He decides to try another crabbing spot and takes the boat to a different location. After dropping the crab pot and waiting for crabs to take the bait, he struggles to pull up the heavy crab pot. This time, it’s full of crabs. There seem to be many of them gathered in this location.

Curious, he decides to take the boat back to the first spot he dropped his crab pot. Perhaps we can find a clue about what may be going on. When we arrive, we look down into the water. Where the crabs were gathered, we saw many fish swimming around. But here the water is empty of fish. He continues to look around, searching for signs of life. The water is murky like broth, and down below, there seem to be a few dead organisms you can’t quite identify.

It looks like marine organisms are struggling to survive in this area. He then contacts the office of a local policymaker, **Representative Wordsmith** because he is concerned about the economic consequences of this strange phenomenon. To figure out what might be going on, we need to get to know the area and check out the available data.

Why do we care about Dungeness crabs on the Oregon coast?

Dungeness crab (*Cancer magister*) is an iconic species of the West Coast, sought after by humans and non-humans alike for their delicious and abundant meat. Considered the most valuable single-species commercial fishery in Oregon, 14 million pounds of crab are caught each season from coastal Oregon and the Columbia River estuary.



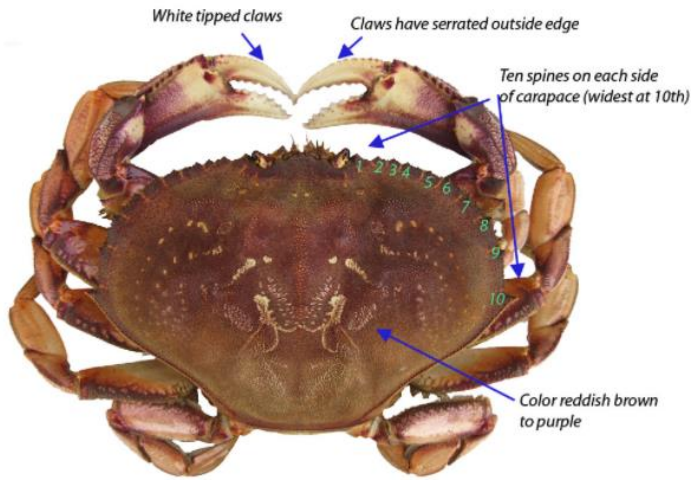
Crab season along the Oregon coast begins in late fall and continues through the end of summer. Peak harvest occurs during the first eight weeks of the season with up to 75% of the crabs caught annually during this period.



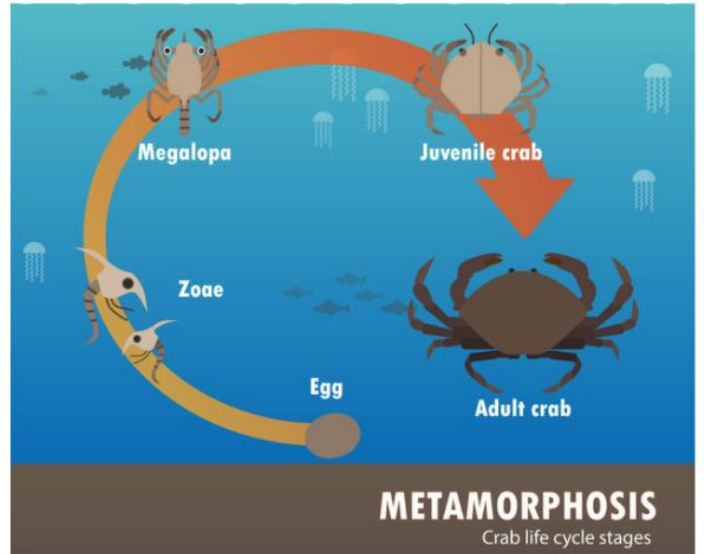
Dungeness crab biology

- Life expectancy: 8-13 years old but commercially caught crabs are usually about 4 years old.
- Claws are used for defense and to tear apart large food items.
- As adults, Dungeness crabs primarily eat bivalves, crustaceans, and fish. As juveniles they feed on fish, shrimp, mollusks, and crustaceans.
- Predators include seals, sea lions, a variety of fish and humans.
- Adults prefer living in eelgrass beds, sandy or muddy bottom areas.

Dungeness crab
Cancer magister



Source: ODFW



Source: VectorStock

DID YOU KNOW ?

- A female crab can carry up to 2.5 million eggs.
- Crabs walk sideways, and if they lose a leg, they can grow a new one!



Video:

Watch Dungeness Crabs underwater!



Activity: Let's think money

How does crabbing impact Oregon's economy?

Here are publicly available data from the National Oceanic and Atmospheric Administration (NOAA) showing the amount of crabs caught and sold per year from 2000 to 2020 in the state of Oregon.

With this data, do the following:

A. Calculate dollars per pound by year

B. Calculate mean, median and mode for dollars per pound.

C. Graph dollars per pound over time using the next page or the downloadable spreadsheet.

Year	Dollars (\$)	Pounds (lbs.)	Dollars per pound (\$/lb.)
2020	\$72,808,543	19,892,507	
2019	\$67,929,755	19,035,130	
2018	\$74,521,972	23,135,062	
2017	\$58,723,397	19,015,068	
2016	\$55,730,714	15,714,311	
2015	\$12,106,313	2,293,246	
2014	\$48,146,905	11,917,735	
2013	\$71,208,124	26,033,696	
2012	\$29,172,280	8,691,273	
2011	\$44,689,979	17,260,411	
2010	\$32,747,868	15,868,634	
2009	\$42,408,366	21,856,162	
2008	\$29,196,238	13,907,404	
2007	\$38,201,827	17,026,280	
2006	\$53,806,817	33,316,217	
2005	\$26,522,935	17,730,436	
2004	\$42,826,662	27,272,472	
2003	\$37,117,157	23,930,034	
2002	\$20,760,761	12,443,601	
2001	\$19,296,245	9,689,688	
2000	\$23,709,255	11,180,495	
Total			

