

# SHORE STEWARDS NEWS

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*This issue was prepared by Donna Gleisner and Chrys Bertolotto, WSU Snohomish County Extension*

## To Catch a Dungeness Crab: The Life Cycle

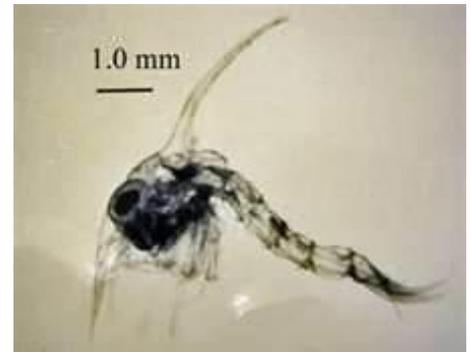
Before you can eat that delectable Dungeness crab for dinner, you have to catch it. And before you can catch it, the crab has to grow large enough to be legal to harvest. And before it can grow, it has to be born.

All crabs begin as eggs and go through various larval stages before becoming adults. The female crab stores the sperm on her body until her eggs are fully developed.

Fertilization happens then the female extrudes her eggs under her abdomen (October to December in Washington). Large females may carry more than 2.5 million eggs. When first laid, they are bright orange. After several months they hatch.

Upon hatching in winter, they are bizarrely horned and tailed microscopic larval forms called "zoea" (ZO-ee-ya). In spring, larval crabs increase in size while their tails shrink. This begins the "megalope" stage where they resemble tiny orange lobsters the size of peas. Megalopes molt into the juvenile crab stage in April and May. At this point they look like teeny adult

crabs, only about a quarter of an inch wide. Juvenile crabs can be found in shallow coastal areas, estuaries, and beds of eelgrass and other vegetation. They usually avoid areas where adult crabs live and feed, since adult crabs are known to eat their young. Juveniles also prefer protective structures such as pilings and woody debris. Crabs remain juveniles for two years.



*A newly hatched baby crab is called a "zoea".*



*Newly molted crab (green shell) with smaller brown shell it just came out of.*

Because crabs are enclosed in a rigid exterior skeleton since hatching, they must shed their shell to grow. In their first year, Dungeness crabs may molt as many as seven times! During a molt, the male crab will gain about 65 percent in weight. When preparing to molt, a crab's old exoskeleton separates from the new one beneath. Then the new exoskeleton absorbs water and becomes larger, causing the old exoskeleton to split. The extremely soft and flexible crab can now quickly back out of its old shell.

For the next couple of days, the crab's survival relies on its ability to remain well hidden or buried in the sand. It

takes about two months for a soft-shelled crab to fill with meat and become a prime quality, hard-shelled crab.

Adult crabs of harvestable size are usually caught in crab pots. Other techniques include ring nets, dip nets and wading in shallow water during spring and early summer.

The Dungeness Crab (*Cancer magister*) has a distinctive reddish brown to purple colored shell. In Puget Sound, Dungeness is most abundant north of Seattle, in Hood Canal, and near the Pacific coast. It frequents eelgrass beds and prefers sandy or muddy bottoms.



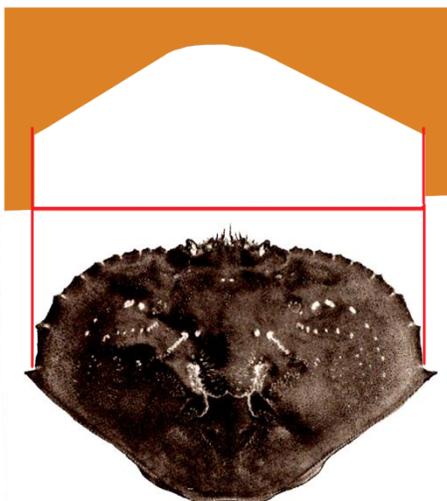
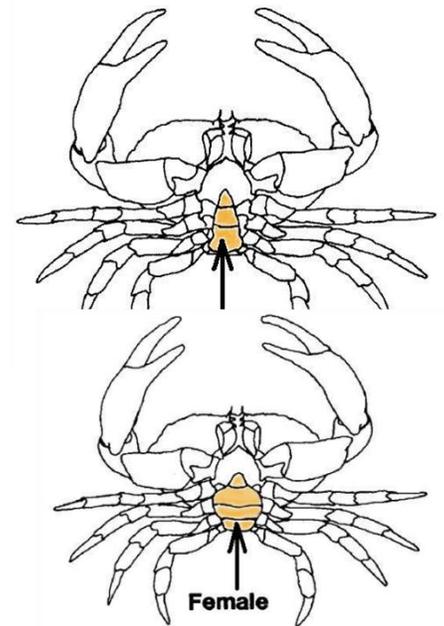
### Dungeness Crab

Photo courtesy of the US Fish and Wildlife Service

## Eat More Crabs

Everyone wants to go home with crabs, and their crab pots, after a day out on the water, on the beach or on the piers. In recent years, we've seen record numbers of Dungeness crabs being harvested, with over 10 million pounds of crab being taken in 2011 alone. It is important that all crabbers follow certain rules to sustain the population for future years. Recreational crabbers are, by far, the largest population of crabbers out there, so our cumulative actions can have an immense impact. Below are some tips and images to help keep the population strong.

**Keep only male crabs 6 ¼" and larger.** The males that are targeted are those that don't contribute much to population growth. Males smaller than 6 ¼" across are responsible for most of the future generations, so taking them could reduce future harvests and also the wildlife that depend on crab larvae for food. Sexes can be differentiated by looking at the abdomens on the crabs' underside. The female crab's abdomen is much broader as it is where the female holds her millions of eggs.



**To measure a crab properly,** you must use a caliper, available at most gear or bait shops. Dollar bills and rulers simply don't work. If you're lucky, you may meet a WSU Extension Beach Watcher or local angler this summer giving away calipers for free. The image on the left shows how to use a gauge – the crab is measured on the inside of the last set of points, or tips. Taking a female or small male crab is illegal and can result in a fine.

## Keep Your Crab Pot

Perhaps you are one of the lucky few who have never lost a crab pot. Or perhaps you believe that any missing pots must have been stolen. Each year, over 12,000 crab pots are lost and wind up on the bottom of Puget Sound. Those pots trap and kill 178,000 male, harvestable crabs annually. Each lost pot wastes \$235 worth of crab, plus it takes at least \$190 (of your tax dollars) to find and remove each lost pot. This is a huge waste! The percentage of commercial, recreational and tribal pots found varies by region, but there are generally equal shares of each type found during removal operations.

**\*Use Escape (or Rot) Cord.** A large percentage of recovered crab pots are not equipped with escape cord. These are the biodegradable cord on your crab pot that break down in two to three months, preventing 30 legal size crabs a year from perishing in your pot! The dead and dying crab become bait for more crab, continuing the cycle until the pot degrades. Using a cotton, jute, sisal, yarn or hemp escape cord is the law in Washington.

**\*Weight your lines.** Weighted lines sink rather than floating on the surface of the water. A passing boat will not see a floating line and can cut it as it passes over. You can either buy leaded line, or purchase weights and attach those to your line. It doesn't hurt to also weight your pot, especially if you are crabbing in areas with strong currents.

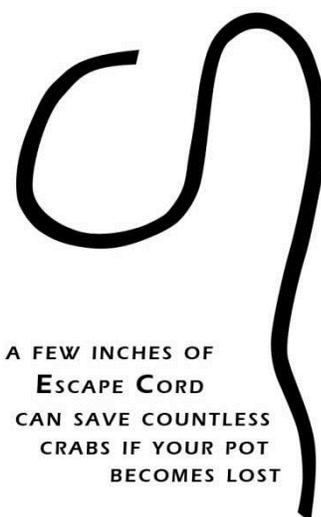
**\*Check the water depth.** Before you toss your pots over the side of the boat or dock, check the water depth. If you are in a boat, the boat may drift while you've prepared the pot. Experienced crabbers know that slowly lowering the pot until it hits the ground is a wiser choice than tossing it in and watching the buoy go underwater. You can check a chart or use a depth finder to determine the water depth.

**\*Use more line.** Use a line that is one-third longer than the water depth in which you are crabbing. This will ensure that you won't lose your pot due to deep water, high tides or strong currents that pull the pot sideways as you lower it to the ground.

**\*Steer clear of high traffic areas.** Avoid ferry, log boom or commercial boat routes as these ships do not detour for crab pots. Sailing regatta courses can also be dangerous to place pots in as sail boats take longer to turn.

**\*Watched pots never roam.** If you can, stay with your pots as they soak. Watched pots rarely get lost.

### ESCAPE CORD



A FEW INCHES OF  
ESCAPE CORD  
CAN SAVE COUNTLESS  
CRABS IF YOUR POT  
BECOMES LOST

## Resources

Derelict Gear Impacts, NW Straits: <http://www.derelictgear.org/Impact.aspx>

Dungeness Crab Facts, Pacific Marine Estuarine Fish Habitat Partnership:  
[http://www.psmfc.org/habitat/edu\\_crab\\_fact.html](http://www.psmfc.org/habitat/edu_crab_fact.html)

Dungeness Crab Mortality and Cost-Benefit Analysis of Trap Removal in Washington State Waters of the Salish Sea, North American Journal of Fisheries Management:  
<http://www.tandfonline.com/doi/full/10.1080/02755947.2011.590113>

Dungeness Crab Species Profile, US Fish & Wildlife Service:  
[http://www.nwrc.usgs.gov/wdb/pub/species\\_profiles/82\\_11-121.pdf](http://www.nwrc.usgs.gov/wdb/pub/species_profiles/82_11-121.pdf)

Escape Cord Installation, NW Straits Initiative: <http://escapecord.org/How-to-Use-It/14.aspx>

Life of a Dungeness Crab, Oregon Fish & Wildlife Department:  
<http://www.dfw.state.or.us/MRP/shellfish/crab/Lifehistory.asp>



*This product is funded by the Island County Marine Resources Committee and the Northwest Straits Commission. You can view the Marine Resources Committee website at [www.islandcountymrc.org](http://www.islandcountymrc.org)  
The website for the Northwest Straits Commission can be seen at <http://www.nwstraits.org/>*



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