How to identify a soft-shell crab

An estimated 50 percent of the Dungeness crabs caught by recreational crabbers have soft shells. Many of them are legal size. But their soft shells contain a small amount of watery meat that is hardly worth the trouble of cleaning and cooking.

In fact, many people end up tossing the poor quality crab meat into the garbage can.

You can prevent this waste of a valuable ocean resource by testing the crabs you catch to see if they have soft shells. If they do, return them immediately to the water.

What is a soft-shell crab?

Crabs are arthropods—that is, animals whose skeletal support is on the outside of their bodies. Other arthropods include lobsters, crayfish, and spiders.

The outside skeleton, or shell—called an exoskeleton—protects the crab, but it also presents a problem when the crab outgrows it. In order to grow, the crab must shed its exoskeleton and form a larger one in a process known as molting.

Soft-shell crabs are those that have recently molted. The shell is soft because the new exoskeleton has not had time to harden.

Crabs molt as many as 12 times a year until age two, then about once a year until age six. Before molting, the crab reabsorbs calcium from its old exoskeleton, making the shell more flexible. During the actual molt, the flexible shell splits at the rear, where it is attached to the body, and the crab backs out of the old shell.

After molting, the crab takes in seawater, which causes its body to swell to larger proportions. The new shell gradually hardens, and the crab begins to grow muscle tissue to fill up the new shell—a process that takes 2 to 3 months. Until this growth process is complete and the shell has hardened, the crab meat is watery and jellylike.

Some crabs, such as blue crabs on the East Coast, are good eating in the soft-shell state. But the Dungeness crab caught in Oregon bays is not good to eat in its soft-shell form.

Dungeness crabs molt at all times of the year, but the incidence of soft-shells is generally high from April through July and in October and November. These dates are approximate and may vary widely from place to place.

Unfortunately, male Dungeness crabs reach legal sport fishing size—5 3/4 inches across the shell—before they stop molting. So you could catch a legal-sized crab that has a soft shell. It may look like a good catch, but you are likely to be disappointed with the amount and quality of crab meat it yields.

Pinch test: Holding the crab in one hand (r), pinch the large section of one of the walking legs (l). If the shell gives, the crab is still in its soft-shell form and will not be good eating.

One way to pick up a crab safely is to grasp quickly one of the rear legs.
Another way to pick up a crab is to grasp the rear central portion of the shell. Place your thumb on the belly flap . . . and your fingers on the back—out of reach of the pincers.

How do you recognize a soft-shell crab?

The new exoskeleton of a recently molted crab will be bluish-white (instead of yellowish-brown) and free of barnacles and algae. The crab will be lightweight in comparison to its size because it hasn’t filled its new shell with muscle tissue.

But the easiest way to identify a soft-shell crab is to give it the pinch test.

When you haul in your crab ring or pot, pick up each crab and squeeze the edge of the shell near the lateral spines, or pinch the large section of one of the walking legs (as opposed to the pincers). Pinch with about the same pressure you would use to burst a grape.

If the shell gives easily, the crab will yield less than 20 percent of its weight in soft, mushy meat. Some shells will give just a little when squeezed. These crabs, too, have soft shells and will yield about 20 percent of their weight in poor quality meat.

The shell of a hard crab, on the other hand, will not give when you pinch it. It will yield 25 percent of its weight in top quality crab meat.

What do you do with soft-shell crabs?

If the Dungeness crabs in your crab pot turn out to have soft shells, simply place them back in the water. In 2 to 3 months, the shell will harden, and the meat will be of the high quality you have come to expect from Dungeness crab.

Then perhaps you’ll catch it again—and a pinch test will tell you it’s a keeper!