

BCF Biologists Learn Male King Crab Formidable Critters to Tag

Department of the Interior biologists stationed with the Bureau of Commercial Fisheries laboratory at Auke Bay, Alaska, are engaged in a massive crab grab.

Since 1961, thousands of male Alaskan king crabs have been captured, tagged and released in an effort to map the abundance and distribution of major populations in the Kodiak Island and Eastern Bering Sea areas.

Although similar in purpose, crab tagging is not so simple an operation as bird banding. The Alaskan king crab's walking legs may grow to a length of 2 feet, giving him a toe-to-toe span of about 5 feet, and the average weight of those being harvested at present is about 7 pounds, although 25-pound giants are not unknown.

More formidable yet, the king's pincer claw is fully capable of crunching through a broom handle with the ease and abandon of a hungry teenager attacking a hamburger.

However, it is neither the sheer massiveness of the crab, nor the crunching ability of his great claw that has posed difficulty for marine scientists. Prudently confining tagging activities to smaller members of the species, biologists have still had to cope with the problem of finding a more-or-less permanent tag.

In earlier studies, a simple disc-type tag was satisfactory for short-term projects such as tracing migrations during a single season.

However, the disc is attached either to a leg or through the edge of the body covering, or carapace. Come the molting season, which may occur several times a year among the younger crabs, and off goes the shell...legs, carapace, and disc tag. After a brief period of growth, usually about a week, the new shell hardens and the crab goes on his way, an unmarked crustacean.

For long-term studies, lasting through one or more molting seasons, a "spaghetti" tag is used. This consists of a piece of plastic tubing threaded through muscle tissue under the carapace and tied securely to form a loop.

Success of a tagging program depends largely upon the cooperation of fishermen and processors, who receive a \$2 award for each tag turned in to the BCF laboratory. Out of nearly 17,000 tagged crabs released in the vicinity of Kodiak Island, 6,443, or 38 percent of the tags, have been returned with information on the size of the crab and the time and location of its recovery.

BCF researchers are now calculating estimates of natural and fishing mortality.

These estimates, together with tag data, fishing effort, growth information, catch statistics and production figures, will be used to determine what conservation practices are necessary for optimum use of the resource.

The king crab industry has expanded dramatically over the last two decades, with the U.S. catch going from 1.5 million pounds in 1950 to a high of 159.2 million pounds in 1966.

In late 1964 and early 1965, Japan and the USSR agreed to abstain from fishing for U.S. stocks of king crab except in the eastern Bering Sea, and here landings are limited to negotiated annual quotas. Agreements were also made on restrictions concerning the type of gear to be used, and the size and sex of crabs to be taken.

Under present conservation rules, only male king crabs over 5½ inches in body width may be harvested.