

**Alaska King Crab Research, Rehabilitation and Biology
(AKCRRAB Program)
Fall Kodiak Field Work 2007**

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NOAA Alaska Sea Grant

Broodstock collection

In 2008, we plan to investigate effects of stocking density on small and large scales with modifications to water flow, water filtration, and tank aeration to improve larval survival. To accomplish this, 10 ovigerous female red king crabs are being collected from Womens Bay on Kodiak Island using scuba and pots (permit application in review). Ben Daly is working in collaboration with the National Marine Fisheries Service (NMFS) Kodiak Lab members Pete Cummiskey and Eric Munk who are diving fairly regularly at various locations within Womens Bay in search of adult red king crabs (*Paralithodes camtschaticus*). Search methods involve time segments in a given direction. Once found, several adult crabs will be marked with sonic tags and released. Tagged crabs have been shown to be an effective method of locating aggregations of crabs. Divers will then dive on tagged crabs in search of surrounding ovigerous females. Pots are being used as an additional method for locating broodstock. Several pots baited with chopped herring are being deployed at various locations. Crabs will be maintained at the NOAA Kodiak lab until they may be transported to Seward.

Habitat surveys

Techniques are being developed at the Alutiiq Pride Shellfish Hatchery to culture red king crab on a large scale. Survival of hatchery-reared red king crab will be dependent on the suitability of the release site. Preliminary efforts must be made to gain a better understanding of existing juvenile red king crab population distribution and habitat use. The first step in understanding essential habitat is identifying what habitats wild crabs are presently utilizing. In collaboration with the National Marine Fisheries Service (NMFS) Kodiak Lab, this exploratory effort aims to address habitat preference of juvenile red king crab. This will be the first attempt to conduct ecological fieldwork for this project.

Scuba efforts by Ben Daly and Pete Cummiskey are being focused on broodstock collection. When time permits, preliminary opportunistic habitat surveys are being conducted in various locations in Womens Bay simultaneously with broodstock searches. These benthic scuba surveys will be used to quantify spatial distribution of *P. camtschaticus*. Depth will be recorded for each individual crab. Also, because small scale variability will likely occur within each area, the specific substrate/structure the crab is occupying will be recorded to give insight into microhabitat use. All crabs observed will be identified, measured (carapace width to the nearest mm), and sexed.