Alaska King Crab Research, Rehabilitation and Biology (AKCRRAB) Program
Active Research Projects at the
Juneau Center, School of Fisheries and Ocean Sciences, University of Alaska Fairbanks, 3/21/09

Juvenile Crab Growth and Behavior
We are studying the growth and behavior of hatchery-raised (Alutiiq Pride Shellfish Hatchery) and wild-caught (offshore near Juneau) juvenile red king crabs, to evaluate the feasibility of crab enhancement. We must first understand how the juvenile hatchery crabs grow, how susceptible they are to disease and predation, and how they behave compared to wild crabs. Currently, we are raising tiny crabs individually to study how often they molt and how hormones regulate molt timing. One interesting behavior we observed is that the crabs consume their molts shortly after molting takes place. This observation is leading us to develop better juvenile crab diets. Later this year, we will initiate experiments between wild and hatchery crabs to discern how they interact with one another and compete for food, and whether they behave differently.

Habitat Research
The goal of our laboratory and field-based habitat research is to understand how habitats support red king crab populations through the first year of life. We are looking at crab abundance and habitat in the field. We are conducting experiments in the lab to determine if there are substrates young crabs prefer. We are determining how important different habitats are for food supply and predation risk. Young crabs are at a great risk of being eaten by fish, and we found that juvenile cod and halibut like to eat tiny crabs. We plan to continue this work in the field this summer by tethering tiny crabs on fishing line, and using cameras to see what eats them and if more are eaten in different habitats. Our research provides important baseline information for management and recovery efforts for crab populations throughout Alaska.

Population Structure and Mating Systems
We are using genetic techniques in order to gain a better understanding of the basic life history of red king crab, as well as red king crab stock structure in Alaska. We are investigating the scale and location of genetically distinct stocks of red king crab in Alaska waters. A second objective is to determine the mating structure of king crab using genetic tools, so we can appropriately design enhancement projects that may be used to boost crab larval abundance in Alaska waters. These genetic studies will help ensure that commercial, recreational, and subsistence uses of king crab remain a part of Alaska into the future.

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