

**Mid-Year Report from the Rasmuson Fellows**

***Continuing Students***

**Alison Banks**, M.S. Marine Biology

*Seasonal Foraging Strategies and Consequences for Northern Fur Seals at Colonies with Opposite Population Trends*

Alison Banks spent over a month this summer on Bogoslof Island studying the fur seal populations in order to contrast the increasing population of fur seals at Bogoslof Island with the decreasing populations in the Pribilof Islands. She is currently in the field during the month of October and this will be the last field trip before beginning the writing of her thesis. She reports that her work is progressing well. (*prepared by Denis Wiesenburg*)

**Brian Knoth**, M.S. Fisheries

*Investigating the Trophic Role of Arrowtooth Flounder (*Atheresthes stomias*), as a Top-Level Consumer, in the Gulf of Alaska Ecosystem*

I have collected all the samples for this project and finished my analysis of these samples in the laboratory. I am currently working on my data analyses, specifically I am in the process of 1) developing the bioenergetic model for arrowtooth flounder, which I will use to estimate the prey removals and 2) running the statistical analysis on the seasonal/ inter-annual dietary variations. In addition, I am working on drafts of my thesis chapters. I have finished a rough draft of my introductory chapter and I am working on the outline and structure of my other chapters. I was hoping to defend in December 2005, but now I am anticipating defending during the spring semester, sometime around February/March 2006.

**Mary Beth Loewen**, M.S. Fisheries

*Seasonal Abundance and Habitat Characteristics of Nearshore Pelagic Fish in Kodiak, AK*

Work on my thesis is progressing more slowly than I would like to report. Currently, I am working on Chapter 2 Results and Discussion Section, and anticipate the chapter will be finished or close to finished by the first week of November. Chapter 3, which includes multivariate analysis of oceanographic and fisheries data, will require all of November and December. Although I had anticipated defending this fall, unexpected delays and difficulties have made that unrealistic. I now hope to defend in spring of 2006, most likely in February. I thank the Rasmuson committee for their continued support, and look forward to presenting my finished thesis work to the board in March.

**Joel Markis**, M.S. Marine Biology

*Essential larval and juvenile fish habitat in nearshore waters of Kachemak Bay, Alaska*

My project is progressing smoothly. I have successfully established nine sites with varying substrate complexity and kelp cover. Monthly sampling began in June with SMURF and light trap deployment as well as habitat and visual fish surveys. This sampling has taken place every month and will continue through the winter and next summer. Thus far I have captured and identified at least 20 species of fish and am in the process of looking at the special distribution of these fish across my sites. I foresee no barriers to the completion of my project or degree.

**Olav Ormseth**, Ph.D. Fisheries Oceanography

*The influence of ocean temperature on reproductive processes of Pacific cod in Alaskan waters*

Olav Ormseth passed his written and oral comprehensive examinations and advanced to candidacy in September 2005. He has finished all of his coursework and is currently working to complete his laboratory work and other research by the end of next summer. This summer he performed a scientific review of an assessment of Pacific cod fisheries conducted by the group Seafood Watch, and also testified before a Marine Stewardship Council team reviewing the Bering Sea Pacific cod longline fishery.

**Katie Palof**, M.S. Fisheries

*Population genetic structure of Alaskan Pacific ocean perch (*Sebastes alutus*)*

Three hundred additional samples were received from NMFS trawl surveys at the end of this summer. These are currently being processed, and additional lab work on this project is progressing well, I hope have all of the lab work completed by mid-November. After which I will analyze the data and begin composing my thesis.

**Julie Nielsen**, M.S. Fisheries

*Spatial dynamics of Tanner crab (*Chionoecetes bairdi*) recruitment: the role of nursery areas*

I defended my thesis May 27, 2005 and am currently finishing up edits to my thesis manuscript, "Distribution and movement of juvenile Tanner crabs *Chionoecetes bairdi*". I am planning to graduate in December. I have also started work on a UAF/USGS research project to determine whether adult female Tanner crabs form springtime aggregations in Glacier Bay National Park. The financial support I have received from the Rasmuson Fisheries Research Center has allowed me to focus on the application of spatial analysis techniques to fisheries data, and I hope to continue to use the skills I have gained in support of fisheries management in Alaska.

## ***New Students Funded 2005***

**William Bechtol**, Ph.D. Fisheries

*Retrospective Analysis of Kodiak Red King Crab*

Initial efforts in this project have involved collection of available data, including literature searches, on the Kodiak red king crab resource. Fine-scale pot and trawl survey data have been obtained from Kodiak ADF&G staff, and commercial harvest data reported after 1968 have been obtained from ADF&G Juneau staff. Efforts are ongoing to obtain pre-1969 harvest data. In addition, public outreach and information-seeking meetings with fishery researchers, managers, former harvesters, and other stakeholder are tentatively scheduled for Kodiak the week of October 24, 2005.

**Carrie Belben**, M.S. Marine Biology

*Community composition, population dynamics and recruitment of intertidal clams in Kachemak Bay, Alaska, in relation to oceanographic conditions*

I have recently finished my field collections and am currently processing the samples. I will soon travel back to the field to deploy temperature data loggers that will remain out until the fall of 2006. I will spend the rest of the Fall 2005 and the beginning of the Spring 2006 semesters processing all of my samples. By mid-Spring 2006 semester I will begin data analysis and thesis writing which will continue into the summer and fall 2006 sessions. I plan to defend by December 2006.

**Shannon Hanna**, M.S. Marine Biology

*Interrelationships among temperature, metabolism and swimming performance in Pacific cod (*Gadus macrocephalus*): implications of a changing climate*

Swim trials of Pacific cod have been completed with two groups of 8 fish. Preliminary analysis indicates no significant difference in swimming performance or standard metabolic rate between fish acclimated to high temperatures (10.6°C) when compared to those acclimated to low temperatures (4.7°C), however, a significant difference was seen in maximum metabolic rate between groups. Blood collected from fish is now being analyzed to examine condition of these fish before and after swim trials and to determine if one or both of these groups were stressed.

**Cindy Tribuzio**, Ph.D. Fisheries

*Abundance, Life History, and Population Demographics of Spiny Dogfish, *Squalus acanthias**

The spiny dogfish in the Gulf of Alaska project is funded by NPRB and works cooperatively with NMFS, ADF&G and the University of Washington. The objective is to describe the population dynamics and ecology of spiny dogfish to aid the Board of Fish in future management decisions about a potential commercial fishery. This project is conducted in 4 parts: estimation of population parameters and ecological patterns such as natural mortality, fecundity and reproductive timing; description of size/age distribution spatially and temporally throughout the GOA; investigation of feeding habits both spatially and temporally around the GOA; and an analysis of historical survey and commercial catch abundances.