



The University of Chicago  
Department of Statistics

Master's Seminar

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**Cohort Group Analysis of Pacific Herring from Sitka, Alaska**

**MONDAY, April 27, 2009, at 10:00 AM**  
**110 Eckhart Hall, 5734 S. University Avenue**

**ABSTRACT**

Pacific Herring is a forage fish which is of both interests in its ecological and commercial influence. Herring stock depletion has raised major concerns to the private and public entities of Alaska fishery over the past decades. When the general fisheries problem is estimating the current individuals and predicting new individuals recruiting to the population, analyzing and estimating the age composition and size at age is of another important issue. Statistical models can play an important role in this estimation and analysis. We introduce a means of analyzing the dynamics of age composition and size at age using the sampling data from Sitka, Alaska. Taking account of the yearly covariance among cohort groups, we suggest a multivariate gaussian model with mixed effects. This method is simple in nature that could be easily applied in the fishery industry for sample data analysis and further forecasting purposes.