Statistics Workshop on Capture-Recapture Analysis:
Frequentist Statistical Analysis using MARK
and
Bayesian Statistical Analysis Using MARK and WinBUGS

Humboldt State University, Arcata, California
8 am - 5 pm
August 2 - 3, 2005

Professor Howard Stauffer
Humboldt State University
Limited to 24 registrants - Pre-registration required

Lodging Information

This workshop will provide a hands-on practical introduction to the analysis of marked data for natural resource scientists and managers using MARK and WinBUGS statistical software. I will illustrate both the frequentist and the Bayesian approaches to statistical inference with MARK and WinBUGS software. Registration includes lunch and breaks.

The following topics will be introduced:

(i) Overview of marked data analysis;
(ii) Theory - the multinomial distribution and maximum likelihood;
(iii) Cormack-Jolly-Seber models;
(iv) Comparison of models and model selection using AICc;
(v) Parameter constraints using PIM's;
(vi) Multiple group models;
(vii) Age and cohort models;
(viii) Linear models using the design matrix;
(ix) Model averaging;
(x) GOF testing;
(xi) Bayesian statistical inference using Markov Chain Monte Carlo (MCMC);
(x) Multi-strata models;
(xi) Covariate models;
(xii) Pradel models;
(xiii) Robust models;
(xiv) Nest survival models; and
(xv) Occupancy models.

The instructor presents enough theory so that the hands-on practical application using the frequentist/Bayesian software MARK and Bayesian software WinBUGS will make sense. The workshop will be held in a fully-equipped computer laboratory with PC desktop computers with MARK and WinBUGS installed so that participants can fully engage in hands-on exercises illustrating the ideas.

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