

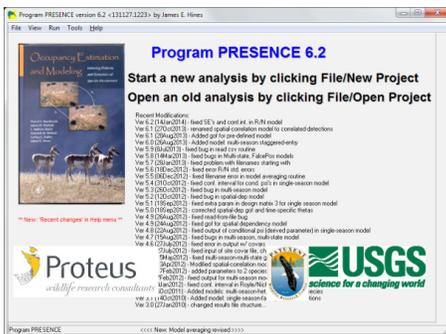
Development of Computer Software for the Analysis of Animal Population Parameters



Biologists at USGS Patuxent, as well as cooperating agencies are constantly looking for new ways of answering questions about the status of animal populations and how animal populations change over time. To address these questions, data are collected on captures and or sightings of animals which can be used to estimate parameters which affect the population using legacy software. Over time, new questions and methods for addressing these questions arise which require new computer software. These software packages are written at Patuxent to be general enough in scope, and user-friendly enough to be useful to many other scientists world-wide.

The software produced at USGS Patuxent includes programs to:

- analyze bird band-recovery data to estimate survival and recovery rates,
- analyze capture-recapture data to estimate survival and recapture probabilities,
- analyze animal survey data to estimate proportion of area occupied,
- analyze bird nest-data to estimate fecundity parameters
- analyze bird-survey data to estimate species richness as well as changes in richness over time
- analyze dose-response data to estimate effects of contaminants
- analyze bird-carcass observations to estimate fatality near wind farms
- simulate data to assess sample-size requirements of capture-recapture or occupancy studies
- provide introductory concepts to biologists or researchers who are unfamiliar with capture-recapture methods and models



These programs are made available to the public via a world-wide-web server (www.mbr-pwrc.usgs.gov/software). Many of the programs can be used via a web-browser without the need to download the software. Others can be downloaded and run on any Windows, Mac or Linux computer. All programs include documentation and references to published literature on the methods used to produce the output.

