Capture-Recapture Sampling

Capture-recapture sampling is primarily used to:

- Estimate the total number of individuals in a population
- Estimate the detectability of individuals

Additional applications are discussed in the textbook.

The basic idea is to obtain an initial sample from a population and "mark" the individuals in the sample. These individuals are then integrated back into the population. A second sample, independent from the first, is obtained and the number of marked individuals is recorded.

Realistic capture-recapture models should account for unequal capture probabilities, immigration and emigration in the study area, births, deaths, and other factors such as "trap happy" and "trap shy" individuals.