

CMR: NEW VERSION OF A PACKAGE FOR THE ANALYSIS OF CAPTURE-MARK-RECAPTURE DATA

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Package CMR has been conceived and designed as a tool to help ecologists for extracting useful information from capture-recapture data files. The arguments advocated twenty years ago in favour of this package remain largely valid.

Capture-recapture is a master technique for monitoring animal populations. Observations (captures and/or recaptures) are often costly, but potentially very powerful. One may record not only the time and place of a capture, but also a lot of information about the captured individual and the circumstances of the capture. The resulting data are quite naturally recorded as a matrix with (re-)captures as lines and observed variables as columns (e.g. date, place, identity of the individual, its sex, reproductive condition, weight, etc.). This is exactly the data structure supported by CMR.

On the other hand, computer software that reflects the recent theoretical and methodological advances in CMR data analysis (e.g. <http://www.mbr-pwrc.usgs.gov/software.html>) usually require preliminary treatment of raw data. Some specialize in modelling temporal population dynamics, based on individual capture histories (possibly classified by criteria such as sex and habitat patch). Others specialize in spatial behaviour (home range, habitat selection) using sets of localizations; here, time is used as a classification variable. Finally, some software packages simultaneously model the temporal dynamics on sets of localized habitat patches in a common landscape, and require as input parameter estimates that are even more unlike the basic data structure.

Between the raw data and these specialized packages, there remains an ample field for basic and intermediate data treatment, including tools for data control and management. CMR package aims at filling this gap.