

# A general framework for capture-recapture models with covariates: semiparametric approach

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## Abstract

We present a general framework for dealing with capture-recapture models with covariates that allows nonparametric models for both individual heterogeneity and behavioral response. This yields a semiparametric model that incorporates environmental variables and an individual's characteristics and capture history. The new models extend the parametric and semiparametric capture-recapture models of Huggins (1989); Hwang & Huggins (2007). The method is evaluated in simulations and is applied to several real data sets.