ABSTRACT: In this study, it was estimated that the number of macroinvertebrate called biological species, using the model of non-linear regression in the context ecological known as Michaelis-Menten equation, from samples collected in streams (streams) clear water study Lima (2008). The methodology made use of Bayesian inference to estimate the model parameters. The results showed a considerable increase in the precision of estimates of parameters using the Bayesian approach with the use of informative priors.

KEYWORDS: Regression model non-linear estimation species, benthic macroinvertebrates.