



PO Box 1700 STN CSC
Victoria British Columbia V8W 2Y2
Tel (250) 721-7436 Fax (250) 721-8962
Email mathstat@uvic.ca Web www.uvic.ca/science/math-statistics

**Department of Mathematics
and Statistics**

November 14, 2016

Dear Editor,

We are submitting the manuscript entitled "The effect of recycled individuals in the Jolly-Seber tag loss model" to the Biometrics in Practice section. Recycled individual occur in capture-recapture experiments when individuals lose all of the tags/marks and when recaptured, are wrongly considered new individuals. Thus we aimed to study the effect of capturing these recycled individuals on parameter estimates and in particular abundance estimates.

This is a simulation-based study offering clearer guidance and understanding to designers of mark-recapture studies. We illustrate the use of these models under various parameter assumptions and various lengths of studies to determine how much of an impact this issue can have on estimates. We do not offer a case study as such data would be impossible. Recycled individuals would not be obvious within a data set and would automatically be considered new individuals. Thus the impact of recycled individuals can only be explored through simulation. In light of this, we hope that you will still consider this manuscript as a worthy submission to Biometrics in Practice as we do have new insights on experimental design and parameter estimates to offer.

Sincerely,

A handwritten signature in blue ink, consisting of a stylized 'L' followed by a horizontal line.

Dr. Laura Cowen