Outline

September 15, 2014

1 Why are we doing this work ? why is this topic important ? Think about the key question you and your audience might have

- The purpose of stock assessment is to estimate mortality rates
- The central model is an exponential decay (Baranov model)
- Likelihood approach have been widely used to estimate parameter. It is central to the integrated approach (CITE)
- Likelihood approach requires one to look at problems from a statistical perspective
- Given that statistic were embraced for the likelihood, it is interesting to see that the statistical counterpart of the exponential decay, in the name of the exponential pdf, was never used.
- The branch of statistics specializing in estimating mortality rates is known as survival analysis.
- Survival analysis is widely applied to medical research
- This paper describes an application of survival analysis to the analyse of catch at age

2 Results

- Likelihood of catch at age
- Ability to estimate parameter from data matrices with $n < p$

3 Detailed content of the article

1. Introduction

- (CITE) used a statistical approach to catch at age analysis assuming these data were distributed according to a multinomial distribution. While this model recognise the presence of multiple age-groups in the data, it fails to account for properties associated with the Baranov equation such as for example that the proportion of individual surviving through time is a declining function of time.
- Multinomial model
- Baranov model

2. Materials and methods

2.1 Likelihood method

- very simple case on a single cohort
- estimating M, q and selectivity on a single cohort
- Multiple cohorts and the separability hypothesis
- Estimator of recruitment

2.2 Simulations testing

- The datasets
- Data uncertainty

2.3 Application to a case-study

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3. Results

3.1 Simulation testing

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3.2 Case-study

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4. Discussion

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4 Title

Yet another general theory for the analysis of catch at age