
SUBHASH LELE, University of Alberta

Population Viability Analysis in the Presence of Observation Error: Consequences and Statistical Inference

Population Viability Analysis (PVA) is used to quantify extinction risk to study populations. These risk calculations strongly depend on the choice of the population growth model and the inclusion of demographic and environmental stochasticity. Another component that is critical is the observation error in the data. We show that inclusion of observation error can be critical in order to conduct proper model selection and PVA. We use data cloning to conduct likelihood based PVA in the presence of observation error, demographic and environmental stochasticity. Extinction risks predicted by with and without observation error models are quite different.