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Amanda N. Laubmeier* (laubmeier@unl.edu), **Richard Rebarber** and **Brigitte Tenhumberg**. *Viability of reduced observations for tracking Astragalus abundance in the field*. Preliminary report.

Long-term studies monitoring ecological populations can be costly and time-consuming. To support their duration, it may be necessary to compromise the desired resolution of data. Here, we explore this tradeoff by first maximizing information gained from a detailed data set and then investigating whether we could sustain a similar study with fewer observations. We specifically consider the problem of modelling the abundance of a flowering plant, *Astragalus scaphoides*, which was previously monitored at four sites in a decades-long study. Using abundances from multiple life stages alongside individual-level demographic data, we can establish a discrete-time model for the plant populations. We then investigate the effect of only tracking large, flowering stages of the plant, reducing the burden of data collection but sacrificing rich demographic information. We compare two tools for accommodating these partial observations - dynamic observers and bayesian estimates - to assess the viability of a reduced protocol. (Received March 04, 2020)