

Abstract: Rare flowering plants in North America are of particular concern to conservation biologists that are interested in preserving species diversity. Possible impact of inherent demographic characteristics leading to rarity and potential extinction, are still not completely understood. For instance, rare species may be more sensitive to demographic stochasticity than more abundant species. In this talk we investigate whether a rare species, *Eupatorium reinosum*, is more adversely affected by stochastic reproduction than a related common species, *Eupatorium perfoliatum*. We use empirical data to construct stochastic Leslie matrices to compare different populations within each species . Then the stochastic Leslie matrices will be used to determine population dynamics and predict population growth.