

Population Structure, Ecotypic Adaptation and Evolution: Caveats for Restoration

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The distribution and abundance of many rangeland species are declining as a result of human influenced habitat alteration. The use of highly heterogeneous native germplasm for restoration poses some difficult choices for rangeland managers. While differentiation among populations may indicate ecotypic adaptation to a particular habitat, this measure is also influenced profoundly by random genetic drift. Disentangling population structure from population history using molecular data alone is an area of ongoing research. Data is presented from model systems and case studies that underscore that genetic and demographic dynamics in natural systems are ongoing and that genetic diversity of a system is one of the most important parameters to monitor. This talk reviews some of the current analytical approaches and their utility to applied restoration projects.