



The Effect of Environmental Factors Versus Life History Strategy on Reproductive Success of *Lupinus* Spp Across the Western United States

Kassie L. Puckett, Loreen Woolstenhulme, Delbert Wiens; Brigham Young University

Plant reproductive success is at the heart of long-term population persistence among any natural plant population. Two influential factors affecting the reproductive success of a population concern its life-history and environmental variations within preferred habitat. We looked at a decade of data on the reproductive success of *Lupine* populations across the western United States to compare these two influences. Data was collected measuring the fruit/flower and seed/ovule ratios of natural populations of the perennial *lupine*, *Lupinus argenteus* (*Fabaceae*) and of various annual species including *Lupinus pusillus* (*Fabaceae*) and *Lupinus sparsiflorus* (*Fabaceae*) across a wide geographic range. Data showed no significant difference for seed/ovule ratios in *Lupinus argenteus* either across years of the study or across the specie's geographic range (among latitude and elevation). However, data did support a significant difference between the seed/ovule ratios among perennial and annual species populations. The annual species always exhibited higher seed/ovule ratios than did their perennial congeners. The data implies that genetic factors may contribute more to reproductive success among *Lupine* populations across the western United States more strongly than environmental factors.

2009. 62nd Society for Range Management Annual Meeting. Paper No. 92-8.