

Oral or poster presentation

Link to: "Mammal management in South America"

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EVALUATING THE INFLUENCE OF EL NIÑO SOUTHERN OSCILLATION CLIMATIC CYCLES ON VICUÑA (*VICUGNA VICUGNA*) HABITAT QUALITY IN THE CHILEAN ALTIPLANO

Following the introduction of effective protection measures for vicuña in the Chilean altiplano, the population recovered from less than 2,500 in 1975 to more than 26,000 in 1990. Since that peak, numbers have been steadily falling. The most recent population census, in 2003, recorded 15,000 individuals. With recent development of management systems in Chile for capture, shearing and release of wild vicuñas, it is important to evaluate the conservation risk, given that this population has apparently not stabilized. Previous studies by Bonacic *et al.* indicated that density-independent factors (primarily climate variables) appear to have an important impact on vicuña population biology. The present study looks into detail at the interaction between variation in habitat quality and vicuña reproductive success. Using satellite imagery (NASA-AVHRR and SPOT VEGETATION) a detailed picture of biomass distribution, and resource phenology was prepared, *post hoc*, for the study zone since 1981. This clearly shows the profound influence that El Niño Southern Oscillation (ENSO) climate cycles have on altiplano vegetation. There are strong indications that the alternating 4-7 year cycle of drought and rain has interacted with local wild and domestic herbivore distribution and abundance, contributing to the observed fall in vicuña numbers, which occurred primarily in more marginal (sink) areas of available habitat.

Spatial ecology and conservation, Grassland/prairie ecology, Population dynamics

Session chair: Willing

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Visual aid needed . PowerPoint projector