

ANU GLENN SANECKI ALPINE SCHOLARSHIP

POSSIBLE PHD TOPIC: EFFECTS OF CLIMATE CHANGE ON RABBIT AND HARE POPULATIONS IN A SUB-ALPINE/ALPINE ENVIRONMENT

Rabbit populations were studied at Snowy Plains (Kosciuszko National Park) in the 1970's (Dunsmore 1974). At this time due to high mortality rates over winter it was considered that this was a marginal climate (at 1400m) for populations to survive. Rabbit populations occur in and around the NSW ski resort areas and other areas of disturbance (at 1500 – 1800m); hares exist outside of this at altitudes to the summit of Mt. Kosciuszko. The rabbit populations are believed to survive due to resort infrastructure providing artificial habitat and protection from periods of snow inundation. Increasingly populations are being observed outside of ski resorts in a range of vegetation communities and up to elevations of 1900m.

The overall aim of the research project would be to identify the effects of climate change on rabbit populations in a sub-alpine/alpine environment. This may be answered through the development of field and laboratory based research that address the following questions:

- Do current or predicted environmental factors (including the effects of climate change) limit rabbit/hare populations in alpine/sub-alpine areas?
- Are rabbit populations dispersing away from resort areas?
- Are current rabbit and hare populations affecting native vegetation, what communities or species are most susceptible?
- Do rabbits and hares act as vectors in weed dispersal, moving species from disturbed to undisturbed areas? Do they also disperse native species?
- Are rabbits competing with native herbivores and affecting their habitat, e.g. Broad-toothed Rat?
- Do current predator control programs alter rabbit/hare populations?
- What is the effectiveness of current rabbit management programs in reducing populations?

References

Dunsmore J. D. (1974) The rabbit in subalpine south-eastern Australia.
1. Population structure and productivity. Aust. Wildl. Res. 1, 17-26.

Note: All other topic ideas within the broad remit of the Glenn Sanecki Alpine Scholarship will be considered.