FENNER CONFERENCE ON THE ENVIRONMENT

incorporating the **20th AWMS Annual Conference**

Wildlife Population Dynamics and Management



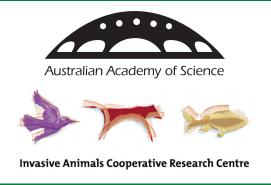
Shine Dome, Canberra ACT Australian Academy of Science

2-5 December 2007

PROGRAM & BOOK OF ABSTRACTS







A tale of two species: mutual lessons to be learned from population management of the southern African black rhino and the New Zealand hihi

Doug P. Armstrong¹, & Wayne L. Linklater²

¹Wildlife Ecology Group, Massey University, Private Bag 11222, Palmerston North, and ²Centre for Biodiversity and Restoration Ecology, School of Biological Sciences, Kirk Building, Kelburn Parade, Wellington 6140

Email: D.P. Armstrong@massey.ac.nz

There are remarkable parallels between the population management strategies currently being used for native vertebrates in southern Africa and Australasia. In both cases, expanding reserve systems have resulted in aggressive translocation programs for threatened species, raising similar issues about maximising metapopulation growth rates, sustainably harvesting source populations, and manipulating genetic interchange. Here we compare two prominent recovery programs, for the southern African black rhino and the New Zealand hihi. Both programs place a strong emphasis on population modelling, with ongoing monitoring focusing on mark-recapture surveys and reproduction data for individual females. Rhino populations are largely managed based on a priori predictions of carrying capacities, and an associated density-dependent model, and populations are harvested to maximise yields and avoid damage to vegetation through overcrowding. Management of hihi populations has had a less explicit a priori theoretical basis, with no consideration for target population sizes. However, it has made good use of adaptive management procedures, with ongoing model development being used to continually improve predictive capabilities. We suggest that both programs would benefit from an integrated approach, where a strong a priori theoretical basis is put in place, then updated based on ongoing analysis of monitoring data.

Notes	