Progress Report SP 2007-002

Identifying the cause(s) of the recent declines of woylies in south-west Western Australia

Animal Science

Project Core Team

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Approved and active

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Project Team	granted
Program Leader	granted
Directorate	granted

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Context

Following a major population recovery following fox control in the 1990s, the woylie (*Bettongia penicillata*) has declined by about 90% since 2001. Population declines have been rapid (<95% per annum), substantial (>90% lost) and have particularly impacted the largest and most important populations. Most of the remaining unaffected populations are small, isolated and inherently vulnerable. The conservation status of woylie has been upgraded to Critically Endangered as a result.

Aims

- Determine the causal factor(s) responsible for the recent woylie declines in the Upper Warren Region of south-western Australia.
- Identify the management required to ameliorate these declines.
- Develop adequate mammal monitoring protocols that will enable future changes in population abundances to be quantified and explained.

Progress

- An Australian Research Council (ARC) linkage project 'The Ecology of Parasite Transmission in Fauna Translocations' continues. Pre and post translocation monitoring in Upper Warren and Dryandra is providing evidence of the effects of conservation actions on the populations of woylies and sympatric mammals at the source and destination sites.
- The evidence remains consistent in indicating that the woylie declines have been principally due to the predation (particularly by cats) of individuals that may have become vulnerable due to disease.
- Collaborative disease investigations continue, particularly into the key associations with the declines.
- A draft paper, reporting on seven native species that successively declined since 1994 in the Upper Warren region (dunnart, wambenger, bush rat, quenda, ngwayir, woylie and western brush wallaby), to similar extents (>80%), at similar rates and with no signs of significant or sustained recovery is currently being reviewed.

Management implications

- Insurance populations to conserve the remaining genetic diversity of the woylie remains a priority. Continued loss of genetic diversity due to important woylie populations remaining small or becoming extinct will compromise the recovery prospects and conservation of the species.
- More effective control of feral cats and foxes is critical for sustaining and facilitating the recovery of important woylie populations. Improved control and monitoring of introduced predators is therefore critical.
- Wildlife disease may contribute to woylie declines by making animals more vulnerable to predation. Resolution of the role of disease in the declines will directly inform woylie recovery strategies and management.
- The serial decline of multiple mammal species in the Upper Warren region is of serious concern requiring action, especially given the high conservation value of the region and of the species and populations supported.

Future directions

- This project has been completed and is closed.
- Support to the ARC linkage project, WWF funded projects, Western Shield and district monitoring activities, and the students associated with this project will contiunue.

- Analysis and publication of the research conducted to date.