Biodiversity Offset Strategy: Land Restoration to Conserve Wildlife

Flinders Research Centre for Climate Adaptation and Animal Behaviour

Problem: Economic activity can have negative impacts on wildlife if it changes the natural environment that plants and animals depend upon for survival.

Opportunity: Use the model of “Biodiversity Offset Strategy” to engage with economic development to monitor environmental impacts of economic activity and enhance ecologically viable environments in parallel with impacted sites.

Industry Contact: Nature Foundation SA Inc. Andrew Reilly, Chief Executive, andrew.reilly@nfsa.org.au

WPG Resources LTD

FU Contact: Prof. Sonia Kleindorfer (Sonia.kleindorfer@flinders.edu.au)
Dr. Jeremy Robertson (Jeremy.Robertson@flinders.edu.au)

Research Ideas:

1. Understand specific habitat requirements of key target species affected by altered land use or economic activity in an area
   a. Current project on Thick-billed Grasswren (*Amytornis textilis modestus*): impacts of altered land use (Sonia Kleindorfer and Jeremy Robertson)
   b. Current project on lizard ecology (Mike Gardner)
   c. Current project on plant-ant interactions (Duncan Mackay and Molly Whalen)

2. For key target species, measure:
   a. Response to management actions (vegetation changes and interactions with habitat requirements)
   b. Quantify species abundance and population viability
   c. Identify population level gene flow patterns, social system and taxonomic status
   d. Assess predation and population viability
e. Radio-track target individuals to quantify habitat use and dispersal (within existing habitat and management induced changes)

**Benefits:**

- Use adaptive management framework to suggest impacts to wildlife and mitigation strategies
- Combine the benefits of economic activity with insights into processes that threaten or maintain biodiversity

**Strategic Significance:**

- School of Biological Sciences at Flinders University has specialisation across a range of taxonomic groups
- Opportunity for consultancy, survey work, student projects (long or short term) that align with key Flinders University aims of community engagement, community relevance, and environmental sustainability

**Current Projects:**

- Honours students and PhD students under the supervision of Sonia Kleindorfer and Jeremy Robertson: Thick-billed Grasswren Population Viability in Altered Environments (2012 to present).
- Lizard Project: Mike Gardner
- Plant-Ant Project: Duncan Mackay and Molly Whalen