

Great Western Woodland Supersite

Affiliated projects summary

Date: August 2013
Project title: The cryptic and the cumulative: mitigating regional ecological impacts of mining and exploration in south-western Australia's Great Western Woodlands
Abstract: The regional impacts of mineral exploration and mining in the Great Western Woodlands are poorly understood despite being potentially major factors shaping the landscape. More than 60% of the region is currently covered by mineral tenements; commodity prices are high, and there is strong government support for the development of the state's mining industry. This research is aimed at increasing our understanding of the regional impacts of mining and exploration, in order to improve the decisions we make in planning, approving, managing and offsetting mining and exploration activities. The three major components of this research are: <ul style="list-style-type: none">• a review of ecological impacts that are frequently overlooked in impact evaluations but that continue to cause ecological loss 'under the radar'. This has resulted in the proposal of a conceptual framework of such 'enigmatic' impacts and a discussion of some ways of addressing some of these.• a spatial analysis of the Great Western Woodlands using Geographic Information Systems software and ground truthing to identify and characterise interactions between disturbance associated with mining, exploration and other land uses; land tenure and tenement history, and a set of environmental and social values.• an observational study using motion-sensor cameras to assess the impacts of track presence on predator activity and interactions in relatively undisturbed landscapes. Roads, tracks, and other linear infrastructure corridors are the most widespread disturbance associated with mining and exploration and create extensive disturbance edges relative to their footprints, but their impacts on surrounding landscapes are poorly understood. Some evidence exists that mammalian predators (mainly dingoes, foxes and cats) use roads but the effect of their road use on predator activity throughout the landscape is not known.
Expected project timeframe: mid 2011 till mid 2015
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Associated parties/collaborators (others involved in the project) Name: Dr Suzanne Prober, Professor Richard Hobbs, Professor Hugh Possingham, Dr Leonie Valentine
Research Project (if part of a larger umbrella research project) Title: TERN-CSIRO Great Western Woodlands Supersite

Funding sources:

UWA Gledden Postgraduate Research Scholarship, the Australian Research Council's Centre of Excellence for Environmental Decisions, the National Environmental Research Program Environmental Decisions Hub, and The Wilderness Society.

Datasets being used or collected:

Linear infrastructure corridors and various other spatial datasets representing ecological values, anthropogenic disturbance, and land use and tenure, and other related data. Also fauna presence and activity at varying distances from roads.

Geographic coverage of study:

Selected focus areas and transect sites within the Great Western Woodlands, primarily within the western half of the region.

Publications:

Raiter, KG, Possingham, HP, Prober, SM and Hobbs, RJ (in review) *Under the radar: mitigating enigmatic ecological impacts*. *Frontiers in Ecology and the Environment*.

Other notes:

This is a PhD project.