

# Summary of Linkage Projects Applications for Funding to Commence in 2006

## Western Australia

### Murdoch University

**LP0669207** Prof JS Bradley; Dr RD Wooller; A/Prof WB Sherwin

**Approved Project Title** **Population Viability Analysis of the Perth Metropolitan Population of the Little Penguin**

**2006 :** \$35,000

**2007 :** \$75,000

**2008 :** \$52,500

**2009 :** \$12,500

**Primary RFCD** 3008 ENVIRONMENTAL SCIENCES

#### Partner Organisation(s)

Fremantle Ports

Department of Conservation and Land Management, Marine Conservation Branch

Corporate Services Infrastructure-WA, Department of Defence

**Administering Institution** Murdoch University

#### Project Summary

The population of Little Penguins, breeding on Penguin and Garden Islands, in the Perth Metropolitan region, are an iconic species and a valuable ecotourism resource. They breed and feed in close proximity to high human activity and a rapidly growing urban population. The nearest other major populations are located 600km to the south. The key benefit of this project is that it will provide a basis for measuring the impacts of threats to this isolated population, and for testing management strategies. Thus it represents a key step in securing the long term future of the penguin population in Perth's waters.

**LP0668931** Prof RJ Hobbs; Dr M Tibbett; Dr JM Koch

**Approved Project Title** **How does soil fertility affect jarrah forest rehabilitation after mining?**

**Project Title**

**2006 :** \$33,422

**2007 :** \$99,240

**2008 :** \$135,225

**2009 :** \$69,407

**Primary RFCD** 3008 ENVIRONMENTAL SCIENCES

#### Partner Organisation(s)

Alcoa World Alumina Australia

Worsley Alumina Pty Ltd

**Administering Institution** Murdoch University

#### Project Summary

This project will examine the effect of fertiliser additions on the species composition and functional diversity of jarrah forest that develops after bauxite-mining. It is directly relevant to the achievement of the sustainable use of natural resources in Australia. Expected outcomes are best-practice management guidelines regarding the amount of fertiliser that results in the most effective achievement of completion criteria, and also an improved understanding of the consequences of fertiliser application on the biodiversity (plants and soil biota) and ecosystem function of rehabilitated forest ecosystems.

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LP0669472 Dr E Koenigsberger; A/Prof PM May

**Approved Project Title** **Template-free Control of Titania Precipitation from Homogeneous Aqueous Solution**

**2006 :** \$40,000

**2007 :** \$77,500

**2008 :** \$75,000

**2009 :** \$37,500

**Primary RFCD** 2501 PHYSICAL CHEMISTRY (INCL. STRUCTURAL)

### Partner Organisation(s)

BHP Billiton Innovation Pty Ltd

**Administering Institution** Murdoch University

### Project Summary

Used in the paint, plastic, ceramic, paper and synthetic fibre industries and having strategic nano-technological applications, titania is an important commodity for Australia, earning about \$1.3 billion p.a. in exports. Better production methods through improved understanding of titania precipitation chemistry will help to increase our industrial productivity and minimise energy consumption. It may also lead to useful new processes and/or materials with catalytic properties. In an increasingly competitive global market, this is most relevant to Australian titania exporters and to Australian renewable energy programs (particularly for generating photovoltaic power).

LP0669589 Dr KJ Steadman; Dr KW Dixon; Dr JM Koch

**Approved Project Title** **Enhancing native seed performance for minesite restoration and biodiversity conservation**

**2006 :** \$41,750

**2007 :** \$83,500

**2008 :** \$86,250

**2009 :** \$44,500

**Primary RFCD** 3008 ENVIRONMENTAL SCIENCES

### Partner Organisation(s)

Alcoa World Alumina Australia

Worsley Alumina Pty Ltd

Botanic Gardens & Parks Authority

**Administering Institution** Murdoch University

### Project Summary

The knowledge and practical outcomes generated from this project will facilitate more effective restoration of degraded native ecosystems through the return of a wider range of key understorey plant taxa and more efficient use of seed supplies. Availability of a broader suite of species will increase biodiversity, improve ecosystem resilience to change, and help in the conservation and recovery of nationally threatened taxa. By increasing the range of species with horticultural potential available for commercial propagation, it will also reduce the harvest of wild flowers. More efficient production and use of seed stocks will reduce the pressure on limited seed resources from seed harvesting.