

CONSERVING BIODIVERSITY AT THE RAVENSTHORPE NICKEL PROJECT



In March this year, the Company approved the Ravensthorpe Nickel Project in Western Australia. One of the challenges facing the project is to construct and operate a significant nickel laterite processing plant and open-cut mining operation while minimising disturbance in an environmentally sensitive area. Detailed environmental planning and research as part of mine planning and design has been undertaken, and programs are being implemented to conserve biodiversity in the area.

The Ravensthorpe Nickel Project (RNP) is located 155 kilometres west of Esperance along the South Coast Highway, approximately 35 kilometres east of the town of Ravensthorpe. The project is within an agricultural region with an established network of small towns.

The project consists of three nickel laterite deposits with an expected mine life of 25 years. Open-cut mining operations will produce ore for a hydro-metallurgical atmospheric and pressure acid leach process to produce an intermediate nickel-cobalt hydroxide.

The main project area includes the ore deposits, plant site, accommodation village, tailings storage and evaporation pond facilities.

Environmental management

The RNP is located within the Bandalup Corridor, a band of remnant vegetation in an agricultural region adjacent to the Fitzgerald River National Park, and falls within the buffer zone of the Fitzgerald River Biosphere, a world-renowned biodiversity area. The Western Australian Department of Conservation and Land Management (CALM) manages both the National Park and the Biosphere. One of the allowable activities within the buffer zone of a Biosphere is mining, subject to responsible environmental management.

The project's ore deposits are located in areas covered by remnant vegetation. The clearing of this vegetation associated with project development has two main impacts on biodiversity, including loss of habitat for fauna and, to a lesser extent, direct fauna impact from road traffic. The loss of fauna habitat has been compensated through the purchase of an adjacent

650-hectare 'bush block' as a conservation offset, together with the revegetation of approximately 600 hectares of existing cleared farmland to allow its incorporation back into the Bandalup Corridor.

At the completion of these revegetation activities and subsequent mine rehabilitation, the width of the Bandalup Corridor will actually be increased. Significantly, Ravensthorpe Nickel Operations (RNO), the management company 100 per cent owned by BHP Billiton, believes that the effective area for fauna habitat post mine closure will be greater than currently exists.

Additional research and conservation initiatives

The project team has also sponsored a PhD research project studying the environment preferences and life cycle of the heath mouse, *Pseudomys shortridgei*, an Australian Commonwealth endangered species that is principally resident in the Fitzgerald River National Park. The outcomes of this research project will assist CALM in developing a recovery plan for the heath mouse to hopefully allow its removal from the endangered species list.

During the feasibility study, detailed ecological survey work has identified over 700 individual flora species within the project leases, a number of which are endemic to the project leases and in some cases have been identified for the first time.

The project team has focused on reducing clearing of remnant vegetation by locating as much infrastructure as practicable on adjacent historically cleared land. Where clearing is unavoidable, progressive rehabilitation including backfilling of mined areas has been included in the mine development schedule.

Additionally, four mining exclusion zones have been established to preserve restricted species. Results from large-scale rehabilitation trials, translocation trials for priority species, genetic studies and seed propagation studies led to the development of rehabilitation and priority species management plans. These plans were subsequently approved by CALM, allowing construction to commence this year.

RNO believes extensive rehabilitation programs will effectively reverse any potential loss of biodiversity associated with land clearing.



► View from Bandalup Hill, Ravensthorpe



► Heath mouse in the Ravensthorpe area



► Local wildflower species *Kunzea similis*

Heath mouse photograph by Jiri Lockman