

Foxtail mauve blooms contrast the vast red plains at Cravens Peak.

Wayne Lawler/ECopix, courtesy Bush Heritage

The science of private conservation

The Australian Bush Heritage Fund has a strong scientific focus when it comes to protecting and restoring environmental and cultural heritage.

This approach is evident on Cravens Peak in far western Queensland, the most recent Bush Heritage Reserve. Part of the Lake Eyre Basin, it is a vast and awe-inspiring landscape with desert dunes, Mitchell grass plains, worn and ancient mountain ranges, wetlands and channel country. Together with Ethabuka, another reserve to the south, this new holding will protect 21 major plant communities, more than 65 reptile species, 30 mammal species and over 120 types of birds. That's one of the richest diversities in Australia and the most diverse reptile fauna on Earth.

At least 16 of these local species are at risk of extinction, making the organisation's conservation and scientific efforts crucial.

Professor Chris Dickman from the University of Sydney has been studying the special interactions between the plants and animals on the edge of the Simpson Desert for 16 years. 'Seven species of insectivorous mammal here uniquely depend on other species, like scorpions or bird-eating spiders, to dig their burrows,' he says. 'This inability to burrow is quite extraordinary.'

'The smaller marsupial mice (dasyurids) are highly mobile and, like birds, have the ability to pick up on distant rainfall events and move towards them. A 10 gram native mouse has been known to travel up to 14 kilometres in search of food and water.'

An Earthwatch program is being planned for 2007 that will enable the public to assist with Professor Dickman's research.

Two of the key ecological threats in this ephemeral environment are wild fire and



Australian Bush Heritage Fund's most recently acquired property, Cravens Peak, supports the world's richest assemblage of reptiles and is home to the iconic Thorny Devil (*Moloch horridus*). Wayne Lawler/ECopix, courtesy Bush Heritage



The Ningau, one of the well-adapted desert marsupials found at Cravens Peak and Ethabuka. Wayne Lawler/ECopix, courtesy Bush Heritage

grazing. Both reduce habitat cover, which leaves small mammals and reptiles at the mercy of feral predators. Re-establishing shelter on the reserves through the removal of cattle and camels, burning in a mosaic pattern, and controlling cats and foxes will go a long way to ensure the survival of species like the vulnerable Mulgara (a small but feisty carnivorous marsupial mouse).

This coalescence of science and conservation management has been welcomed by Angus Emmott, a local Queensland pastoralist and Chairman of the Community Advisory Committee to the Lake Eyre Basin Ministerial Forum. Lake Eyre is the largest internally draining basin in the world with wetlands of



international importance. 'Cravens Peak is a significant investment that will help maintain the health of the basin in perpetuity,' Emmott says.

Bush Heritage is also working elsewhere in Australia to ensure that its purchases and management reflect a deep understanding of ecology and conservation biology. Eurardy Reserve, for example, is one of the jewels in the crown of Western Australia's wildflower properties and was purchased by Bush Heritage in August.

When ecologist Sandy Gilmore conducted bird surveys on Eurardy and three other WA reserves during the spring, he found patterns in food-source productivity and species competition that

substantially explain why certain birds occur where they do. 'These findings will be invaluable for making broader predictions about which lands will give us the best biodiversity bang for our conservation buck,' he says.

Using such available scientific information, Bush Heritage has identified five key regions in Australia in which to focus its conservation investment: the Gulf to the Cooper basin, the Brigalow Belt in central Queensland, the grassy box woodlands in New South Wales and Victoria, the Tasmanian midlands and south-west Western Australia. The fund describes property acquisitions within these regions as 'Anchors in the Landscape'. From these

bases it will build capacity to work with surrounding landholders to improve conservation management beyond its reserve boundaries.

Bush Heritage aims to do this in a range of ways, including assisting with conservation planning, or providing management support in return for covenants or management agreements. An Indigenous Partnerships Officer, Sarah Eccles, has recently joined the team to facilitate conservation on Aboriginal-owned land.

To support this expansion in the conservation program, Bush Heritage has set a target to raise \$20 million within the next three years.

● Alexandra de Blas