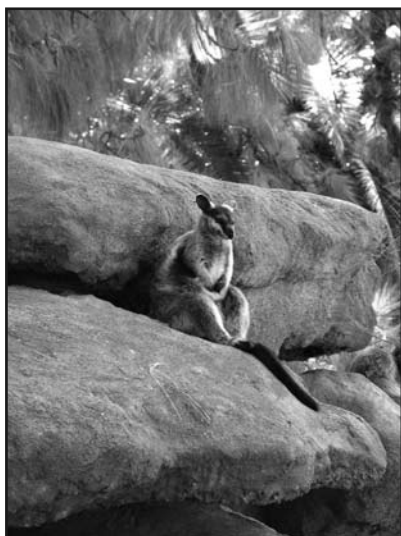




Rock Tourism and the Black-footed Rock Wallaby



*Black Footed Rock Wallaby
photo courtesy of Laura Colman*

The outcrops of interest are mostly inselbergs, rounded dome forms of massive bedrock, tending towards nubbins and castle koppies (structures caused by partial breakdown below the surface of granite sheets to form blocks and boulders, or through pronounced weathering of vertical fractures (Withers, 2000)). These formidable granite outcrop structures provide habitat for the few remaining populations of Black-footed Rock Wallabies.

The opportunity for the National Trust to engage in the protection of the Black-footed wallaby came about through an offer to purchase a property situated east of Quairading, abutting a State nature reserve. By purchasing the property, thereby extending the nature reserve, and putting in place a conservation covenant, would encourage rehabilitation of vegetation required for food and protection for the wallaby. Further research into the conservation values of the property and the reserve identified that further to the north existed additional granite outcrops that also provide habitat for the wallaby. An overview of the adjacent lands gave rise to the notion of an icon project involving the protection of the surrounding habitat within a set of formed roads, creating a larger habitat zone between two key granite inselbergs. The aims of the Black-footed wallaby icon project then became to extend and protect the inselberg habitat of the wallaby and to establish a unique tourism opportunity within Quairading Shire and Western Australia.

The Black-footed wallaby is a truly endangered species. The wallaby once inhabited extensive areas of Australia but, with hunting and introduction of aggressive feral animals, it's habitat is now restricted to isolated locations across Australia, including islands. The Black-footed rock wallaby occurs in a very small area in the south of the Kimberley region and on isolated granite outcrops around the Quairading district, now restricted to five granite inselbergs after once being fairly plentiful on low rock hills (Morris, 2000).

According to Morris (2000), only two percent of the former vegetation on granite rocks remains uncleared. As such, granite outcrops in Western Australia have received considerable attention for their conservation values. Several have been the focus of mammal reintroduction programs by the Department of Environment and Conservation (DEC). Fox control, such as that implemented under DEC's Western Shield program, is considered to be the main form of protection required for small and

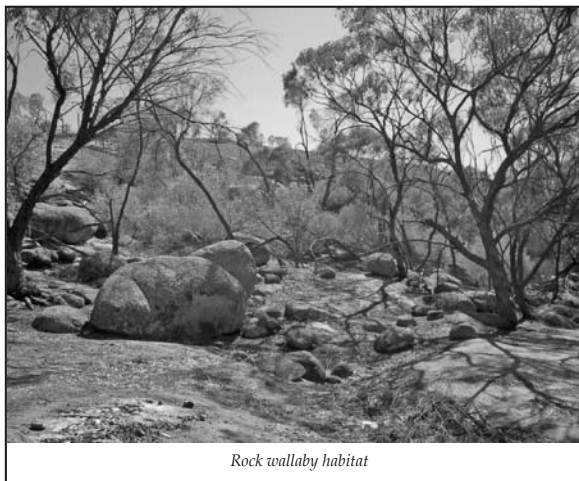
medium sized mammals. Removal of feral cats is also considered essential for the protection of the wallabies. There are several programs in place within the Avon Catchment to extend protection of habitat for wallabies.

The National Trust's conservation and protection role, through its BushBank and conservation covenants programs, is to liaise with land owners within the icon area to encourage adoption of conservation measures that will extend the habitat of the wallaby and increase corridors between rocky outcrops. As wallaby populations increase, they will be able to migrate unimpeded along corridors to other refuges.

There is a role for agencies, corporate and community groups to be involved with rehabilitation. Large-scale rehabilitation can be achieved through commercial partnerships between private or public companies and landowners to establish native species plantations; including sandalwood and endemic host species (sandalwood is parasitic). Within the icon area, these partnerships can be used to create large linkages between existing wallaby populations and granite outcrops. Corporate and community groups can be engaged in targeted rehabilitation to directly improve habitat on the rocky outcrops. Landowners can also participate by providing fenced off areas on which the wallabies can graze.

With care, growing populations of Black-footed rock wallabies provide opportunities for nature-based tourism experiences. Tourism in the Wheatbelt, according to the Wheatbelt Fact Sheet, generated \$90 million in domestic visitor expenditure in 2002, with an average daily expenditure of \$45 and \$144 per visit. There is scope to greatly increase this.

Given the proximity of Quairading to the granite outcrops that host the wallabies, it makes an ideal centre for tourists to travel the 2 hours from Perth (there are many other attractions to fill in a day for coach-bound tourists), be met by a guide, provided introductory information on the geology of the region and habitat, the wallaby, its environs and status, before participating



Rock wallaby habitat

in a unique personalised tour. Local landowners may be encouraged to develop overnight accommodation, as bed and breakfast or self-catering facilities, and provide guided tours or directions for wildlife tourists to view the wallabies. Incentives could be provided by the local council through assistance with marketing, planning approvals and, in some cases, rate relief. State agencies have the resources to assist with monitoring and establishment of facilities including access, interpretation, signage and on-site requirements.

Triple bottom line accounting and "green" marketing has provided the interest for corporate bodies to consider more direct involvement with environmental outcomes. What better means to achieve this than to be associated with a rare and endangered native animal species, such as the Black-footed wallaby, situated on an enduring geological inselberg? Already companies have adopted wildlife as part of their conservation image i.e. QANTAS (the stylised kangaroo). Non-government organisations also know the appeal of wildlife, for instance, WWF adopting the panda.

The combination of geotourism and wildlife tourism represents a growing opportunity for Australia. Tourists are continually seeking new experiences. The combination of granitic outcrops and the Black-footed Rock Wallaby provides a unique way of involving community and corporate worlds, in the future conservation and protection of the wallabies, create a unique tourism experience and incorporate geo-tourism into the package.

Opportunity exists for strategic partnerships to make this icon project a first class geotourism and wildlife tourism experience in which a unique Australian wildlife species has recovered.

References

Morris, K. D. 2000 The value of granite outcrops for mammal conservation in Western Australia, *Journal of the Royal Society of Western Australia*, 83:169-172, 2000.

Withers, P.C. (2000) Overview of granite outcrops in Western Australia, *Journal of the royal Society of Western Australia*, 83:103-108, 2000

Contributed by Alan Briggs, *The National Trust of Australia (WA) & FACET Executive Committee Member*

Understanding Landscapes of the Perth Region

From the stability of the Darling Plateau to the dynamic coastal environments, the Perth region has had a long and varied geological history. Learning about the geology of the Perth region and its surface expression is essential to understanding and appreciating the landscape and ecosystems we see today. Rocks determine the types of soils that are found and hence heavily influence the type and variety of plant and animal communities that depend on them.

In geological terms, the Perth region can be broadly divided into two features – the Darling Scarp and Plateau and the Swan Coastal Plain. The Darling Scarp and Plateau form a landscape of hills and steeply incised valleys to the east of Perth and comprise a mix of ancient igneous and metamorphic rocks dating as far back as 3340 million years. The Swan Coastal Plain contains a thick succession of much younger and softer sedimentary rocks that form a landscape of dunes and low hills with chains of lakes in linear depressions.

Geomorphologically, the Perth region is subdivided into several regional-scale units, each of which lies parallel to the coast: Darling Scarp – colluvial quartz sands; Ridge Hill Shelf – sand and lateritized sand; Pinjarra Plain – unconsolidated clays and loams; Bassendean Dunes – heavily leached yellow and white quartz sand; Spearwood Dunes – limestone and deep yellow quartz sand; and Quindalup Dunes – calcareous coastal sand dunes.

Each of these geomorphological units has a distinctive series of landform-soil units (or soil associations). These units are used by soil and plant scientists to identify vegetation associations in relationship to aspects of the landscape. Each soil association has a characteristic series of plant communities associated with them (Bush Forever, 2000). For example, Banksia woodlands are found on the sandy soils of the Bassendean and Spearwood Dunes. Although much is known at regional scales regarding the association of vegetation habitats and environmental conditions, sufficient detail at finer scales is generally lacking for purposes of landscape ecological studies – although this is being remedied.

In these times of greater environmental awareness there is a growing public appreciation of the need to understand landscapes and the importance of geology. An understanding of geology and geomorphology benefits on-ground conservation work and our appreciation of the important link between geology and biodiversity. For example, banded ironstone formations at Windarling Range and other localities in the mid-west of WA have been isolated over geological time and are considered to be biodiversity 'islands'. These areas have distinct and often unique plant communities and species such as the declared rare flora *Tetratheca paynterae*.

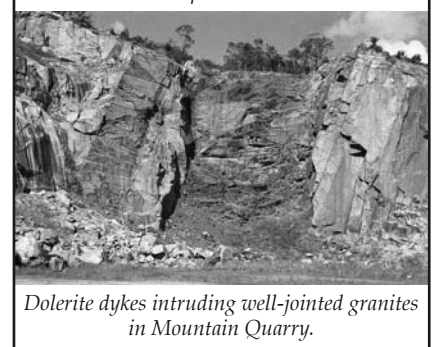
Understanding how past geological processes have shaped the landscape will help us understand how similar processes may change our future. For example, understanding the effects of past sea-level changes will help us to understand the possible effects of sea-level changes predicted for the coming century as a result of climate change.

For more information contact: Bob Gozzard, Geological Survey of Western Australia on 9222 3594 or email: bob-gozzard@doir.wa.gov.au

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Three levels of elevated shoreline platforms at Cape Peron.



Dolerite dykes intruding well-jointed granites in Mountain Quarry.