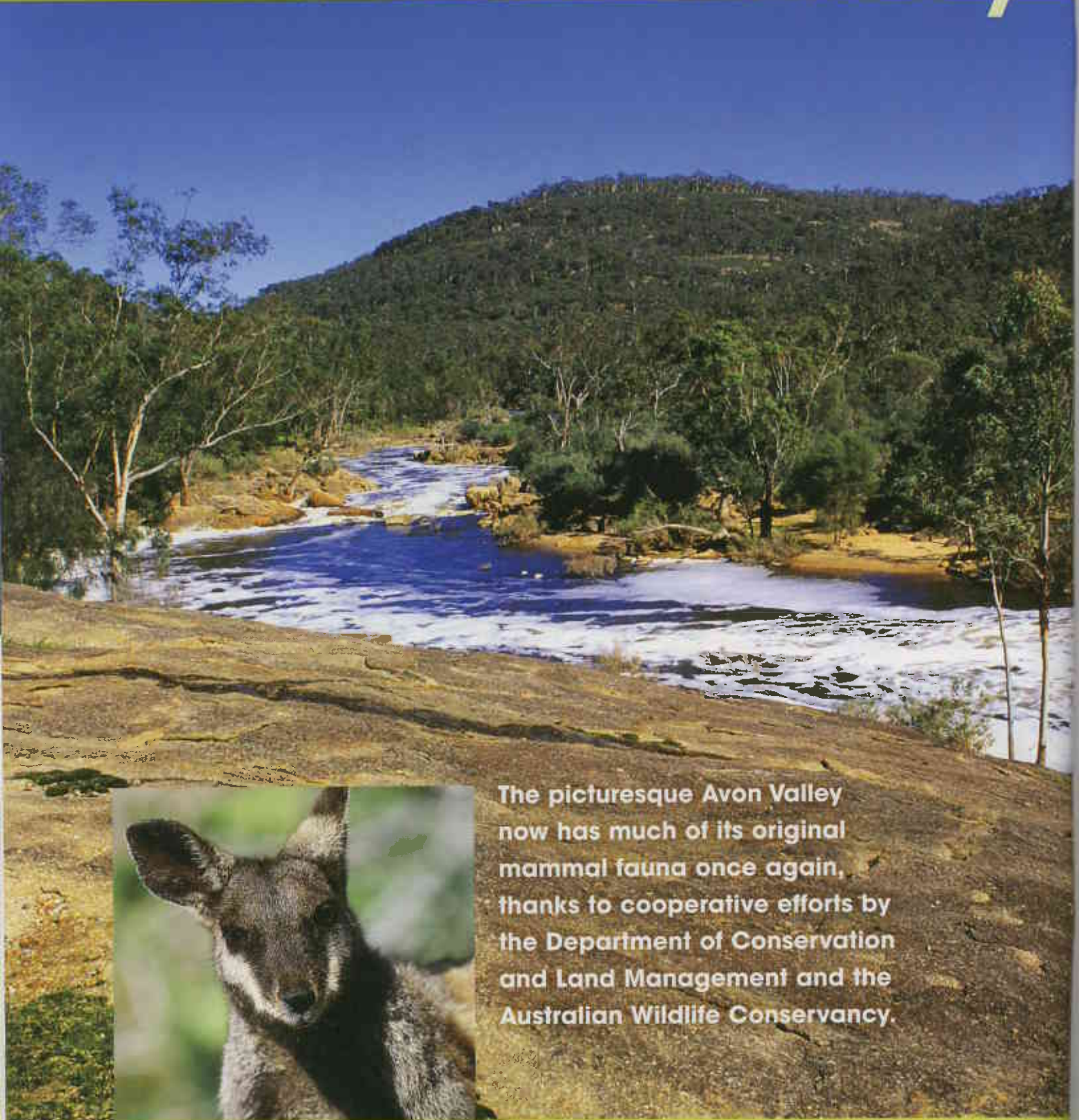


Reviving the Avon Valley



The picturesque Avon Valley now has much of its original mammal fauna once again, thanks to cooperative efforts by the Department of Conservation and Land Management and the Australian Wildlife Conservancy.

by Christine Freegard,
Peter Orell and Andre Schmitz

Avon Valley and Walyunga national parks, both situated on the Avon River about 50 kilometres from Perth's city centre, are popular with campers, picnickers and bushwalkers. The histories of the two national parks go back much further than their respective gazettals in 1970. Famous bushranger Moondyne Joe (Joseph Bolitho Johns) regularly found refuge in the Avon Valley, where he had his hideout, during the 1860s (see 'Bushranger Country', *LANDSCOPE*, Summer 1998–99). Today, our native mammals are also returning to find refuge in the valley.

The original mammal fauna of the Avon Valley included tamar wallabies (*Macropus eugenii derbianus*), chuditch (*Dasyurus geoffroi*), woylies (*Bettongia penicillata ogilbyi*) and quenda (*Isodon obesulus fusciventer*). The Avon Valley was the first place that black-flanked rock-wallabies (*Petrogale lateralis lateralis*) were collected, by John Gilbert in 1842 (see 'John Gould: nature's illustrious illuminator' on page 32–40), and they continued to be seen in the valley until the 1940s.

Grand vision

In 1998, the non-profit Australian Wildlife Conservancy (AWC) established the 2000-hectare Paruna Wildlife Sanctuary in a strategic



location between the Walyunga and Avon Valley national parks. Years of effort by AWC had resulted in them consolidating a number of properties to provide an unbroken, protected corridor that extended for 14 kilometres between the two parks.

The AWC had a vision to establish, together with the national parks and reserves managed by the Department of Conservation and Land Management (CALM), a management unit of sufficient size to allow for efficient ongoing feral predator

control, so that it would be possible to reintroduce the original mammal fauna. Along with nature reserves and a timber reserve adjoining Avon Valley National Park, the combined area available for wildlife management programs was about 18,500 hectares—large enough to sustain viable populations of these animals.

The AWC constructed a vermin-proof fence along one flank of the sanctuary, separating the high quality bushland within it from farmland. The fence was designed to inhibit entry of foxes and cats, and to separate neighbour's pets from fox baits, but, importantly, not to impede movement of wildlife between the two national parks. The AWC then lobbied CALM to begin fox baiting programs in the Avon Valley.

The entire area is now continuously baited to control foxes under CALM's *Western Shield* program, in conjunction with AWC's own baiting program. CALM and AWC were then ready for the next step—to bring back the original wildlife of the Avon Valley.

Bringing back the animals

Woylies, small rat-kangaroos that had largely disappeared from their former range because of fox predation, were reintroduced to Karakamia Sanctuary near Chidlow (the first nature conservation project to be established by AWC) between 1995 and 1998 (see 'Karakamia Sanctuary', *LANDSCOPE*, Summer 1997–98), where they took to their new home and bred to high numbers. Several other species such as quenda, numbats, quokkas, tamar wallabies and western



Facing page

Main Emu Falls, Avon Valley National Park.

Inset Black-flanked rock-wallaby.

Photos – Jiri Lochman

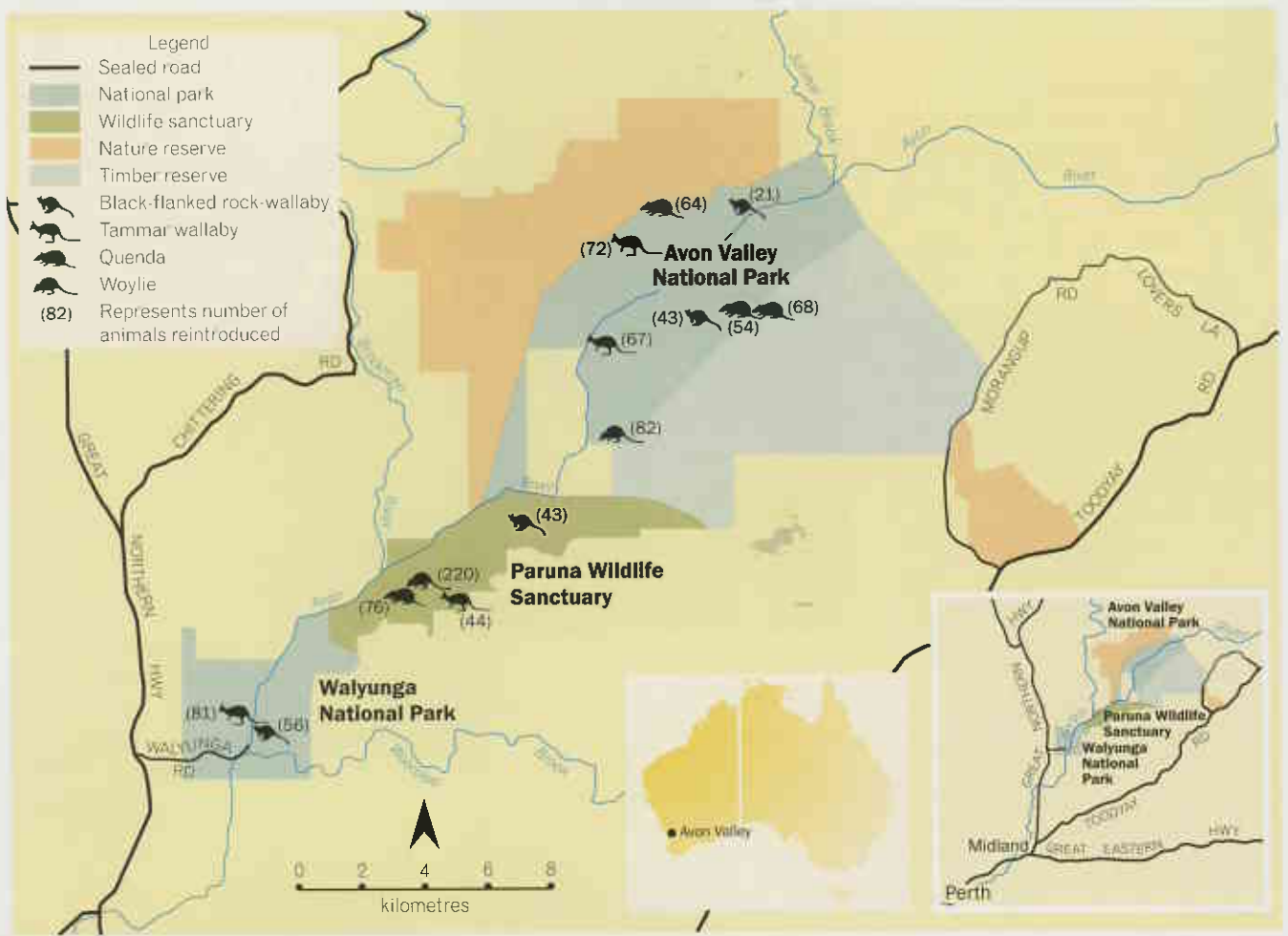
Above left The vermin-proof fence constructed by the Australian Wildlife Conservancy at Paruna Wildlife Sanctuary.

Photo – Richard Woldendorp/AWC

Left Picnicking at Walyunga National Park.

Photo – Jay Sarson/Lochman

Transparencies



ringtail possums have also been reintroduced to the sanctuary. In the past, staff at AWC monitored these populations via quarterly cage trapping sessions. However, with woylies so abundant, nearly every trap either contained a woylie or had been triggered by a woylie, making it difficult to monitor populations of other animals by trapping.

The success of woylies at Karakamia enabled the property to be used as a source of animals for other areas. Between 2000 and 2002, more than 200 woylies were translocated to the Avon Valley, including to Avon Valley National Park—the first time animals bred on a privately-owned sanctuary had been released into a Western Australian national park. Subsequent monitoring showed that removing such

high numbers of woylies had little impact on the population at Karakamia. In total, 302 woylies have now been released into the Avon Valley. Most of these have come from Karakamia Sanctuary, but some were sourced from Kanyana Wildlife Rehabilitation Centre and other wildlife carers.

Another small and endearing marsupial, the quenda, had largely disappeared from the Avon Valley. While it has persisted in small pockets of the metropolitan region, it is fast losing its natural habitat to developments for housing, better roads or community facilities. In a cooperative effort, quenda were trapped at development sites by licensed environmental consultants and delivered to CALM's Wildlife Branch, where they were fitted with ear tags and released into Avon Valley National Park. Staff at CALM's Woodvale Research Centre also undertook some trapping. Some quenda were provided by Karakamia Sanctuary where, like the woylies, they had built up to high densities after relocation, predominantly from development sites.

Left In total, 302 woylies have now been released in the Avon Valley.
Photo – Jiri Lochman

Right Released quenda are successfully breeding in the Avon Valley.
Photo – Jiri Lochman

Centre right Crop damage by black-flanked rock-wallabies adjacent to Mount Caroline Nature Reserve.
Photo – Christine Freegard/CALM

Below right Martin Copley (AWC) with a radio-collared black-flanked rock-wallaby. The radio-collar was fitted in accordance with the animal ethics code of conduct.
Photo – Guy Magowan



A total of 262 quenda, mostly from development sites on the Swan Coastal Plain, have been released into the Avon Valley since 2000.

Turning pests into positives

Around the time that Paruna was established, CALM was grappling with another problem. Fox control had been so successful in some other parts of the State that threatened species had developed into local pests.

The threatened black-flanked rock-wallaby inhabits a cluster of tiny reserves in the Wheatbelt between Kellerberrin, Quairading and Bruce Rock. Rock-wallabies have a liking for rocky habitats that offer shelter in the form of small hidden caves and crevices. They come down from the rocks to feed at night, but rarely stray far from their rocky retreats. Where rocks extend close to farmers' paddocks they happily venture into crops to feed. This was the situation at Mount Caroline Nature Reserve, where fox baiting led to successful recovery from near extinction. They were also causing problems at a privately-owned rocky outcrop known as Querekin, where a population reintroduced in 1990 had expanded beyond the rock to take up residence in the farmer's sheds and among his machinery.

The Avon Valley offered a partial solution for these problems. A fencing, monitoring and translocation program was implemented to try to alleviate the problems, and to establish viable colonies in the valley. Since 2001, 163 rock-wallabies have been removed from Mount Caroline Nature Reserve





Above A tamar wallaby is released at Walyunga National Park.

Right CALM's Peter Orell and Jim Maher releasing tamar wallabies at Avon Valley National Park.

Photos – Christine Freegard/CALM



and Querekin for release into the Avon Valley, including Paruna and the two national parks.

The tamar wallaby, until recently also a threatened species, was another native mammal that had become a local pest. Since fox baiting began at Tutanning Nature Reserve (about 20 kilometres east of Pingelly) in 1984, tamar wallabies had become so abundant that for years they had ventured beyond the reserve boundaries to feed on pasture and crops in adjoining paddocks. While plentiful at Tutanning, they have disappeared from vast areas of their former range, so establishing other populations is an important strategy for the overall conservation of the species.

To reduce the population size at Tutanning Nature Reserve, animals were relocated to the Avon Valley, thereby establishing a new viable colony. The population size at Tutanning Nature Reserve is monitored via spotlighting to ensure that removal of animals does not cause the population to decline to

extinction. In total, 264 tammars were taken from Tutanning Nature Reserve and released in the Avon Valley, including Paruna and the two national parks, between 2001 and 2004.

Abundance at Avon

Significant progress has been made during the last few years in this ambitious fauna recovery project, and a number of species are now reclaiming the Avon Valley as home.

Staff at AWC have radio-tracked rock-wallabies at Paruna and confirmed successful breeding, with small, localised movements around individual granite outcrops. Rock-

wallaby scats have recently been discovered near the boundary between Walyunga National Park and Paruna, equidistant from the two release sites, confirming that the species is spreading out along the valley. Rock-wallabies produce prolific and distinctive scats, so these can be used to monitor their distribution. Jim Maher, the ranger-in-charge at Avon Valley National Park, often sweeps rock ledges clean and returns a few days later to find fresh scats left by resident rock-wallabies. Initially, radio-tracking at Paruna revealed a few unexpected losses to passing trains, until a water trough was provided and a fence built

Right Chuditch have reappeared in significant numbers in the Avon Valley following fox control.
Photo – Jiri Lochman

Below right Paruna Wildlife Sanctuary.
Photo – Richard Woldendorp/AWC

across a rocky extension that the rock-wallabies could use to cross the train tracks.

The founders of the rock-wallaby and tammam colonies were fitted with a metal identification tag in one ear and a reflective tag in the other (blue for males, red for females) so that they could be readily distinguished during spotlighting, and the survival of founders confirmed. A sighting of an individual with no tags carrying a pouch young shows that the second generation has arrived. Both tammams and rock-wallabies are now in the second generation born in the Avon Valley.

Radio-tracking by the AWC at Paruna has revealed that tammams are establishing well, breeding regularly and leading a fairly sedentary lifestyle, sheltering in dryandra thickets during the day and venturing into more open areas at night to feed. However, some tammam wallabies have dispersed significant distances from their release site at Avon Valley National Park. During the height of summer, a male tammam was seen drinking from a birdbath on private property more than 10 kilometres from where it was released.

Other adjacent landholders may also experience visits from reintroduced animals. Many new rural blocks bordering Avon Valley National Park have been sold to people appreciative of the bushland setting. Some have built their homes close to the park boundary. However, due to health and safety requirements for laying 1080 fox baits, several baiting boundaries have had to be moved, and hand baiting used in some areas to reduce possible conflicts with adjacent landholders. This has narrowed the buffer around the newly establishing fauna colonies.

As an unexpected bonus, chuditch are now being caught in relatively high numbers at Paruna and on the *Western*



Shield monitoring transect in Avon Valley National Park. This species has not been reintroduced to the Avon Valley, but has reappeared in the area in recent years. It is likely that this is the combined result of local recovery due to the fox control program, boosted by the arrival of individuals dispersing from a population reintroduced to Julimar Forest, north of Avon Valley National Park. The return of the chuditch to the Avon Valley demonstrates a number of features of the project: the 'flow-on' effects of

predator control programs, the importance of wildlife corridors and the success in reestablishing a healthy ecosystem that includes prey species hunted by this top carnivore.

Several founder woylies and quenda were recently trapped in Avon Valley National Park together with 'clean skins' (animals never before caught and tagged, which indicate successful breeding). A woylie released in Avon Valley National Park was captured in Paruna, indicating their ability to disperse.



Right Bushwalkers at Syds Rapids in Walyunga National Park.

Photo – Jay Sarson/Lochman Transparencies

Below Volunteers carrying hessian bags containing black-flanked rock-wallabies into the release site at Walyunga National Park.

Photo – Christine Freegard/CALM



Early indications suggest that rock-wallabies, woylies and quenda are successfully populating the valley and breeding there. Tammar wallabies are more difficult to monitor, but are known to be establishing well at Paruna. Chuditch appear to have recolonised the entire valley under their own steam. Additional releases of animals will be considered if monitoring shows that numbers are not increasing, and to increase genetic diversity of the populations.

Volunteers and visitors

The project represents a successful, cooperative relationship between a government organisation (CALM) and a private, non-profit organisation (AWC), with significant contributions made by individual volunteers and volunteer organisations such as Kanyana Wildlife Rehabilitation Centre and Malaga Fauna Rehabilitation Foundation.

Community involvement has been an important feature of the Avon Valley reintroductions. The release sites were often inaccessible to vehicles, so helping hands were needed to carry the animals to their new homes. Volunteers also provide vital assistance with ongoing monitoring, such as recording counts of rock-wallabies on granite boulders. Eager volunteers with a variety of ages and backgrounds have been recruited through local conservation and landcare networks by park rangers and AWC staff.

In some cases, young quenda have been trapped and considered too small for immediate release. These have been taken to Kanyana Wildlife Rehabilitation Centre or Malaga Fauna Rehabilitation Foundation,

where they have been cared for until they are large enough to have a good chance of survival when released.

The native wildlife is an integral part of the Avon Valley environment, and it is hoped that visitors will begin to notice the diversity of mammal fauna now found there. Both CALM and AWC offer opportunities for visitors to experience the wonders of the region. While many of the species are nocturnal or cryptic in nature, these animals may become more noticeable by sheer numbers, as a result of the protection afforded them in this important conservation area. People pursuing recreational activities such as camping, bushwalking and canoeing are encouraged to look out for any furry onlookers.



Christine Freegard is a project officer involved in fauna conservation planning based at CALM's Wildlife Branch in Kensington and may be contacted on (08) 9334 0579 or by email (christinef@calm.wa.gov.au).

Peter Orell is the *Western Shield* zoologist, also based at CALM's Wildlife Branch in Kensington. He may be contacted on (08) 9334 0454 or by email (petero@calm.wa.gov.au).

Andre Schmitz is the national sanctuaries manager for AWC and may be contacted on (08) 9226 0340 or by email (andre@australianwildlife.org). For information on the conservation projects undertaken by AWC please visit www.australianwildlife.org.

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Managing editor Caris Bailey
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Contributing editors David Gough, Rhianna Mooney.
Scientific/technical advice Kevin Kenneally, Paul Jones, Chris Simpson, Keith Morris.
Design and production Gooitzen van der Meer, Natalie Jolakoski, Maria Duthie, Tiffany Aberin.
Illustration Gooitzen van der Meer.
Cartography Promaco Geodraft
Marketing Cathy Birch
 Phone (08) 9334 0296 Fax (08) 9334 0432
Subscription enquiries
 Phone (08) 9334 0481 or (08) 9334 0437.
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