

A man with short brown hair, wearing sunglasses, a light-colored long-sleeved shirt, and dark pants, stands in a field of green and yellow vegetation. He is holding a wire mesh trap in his right hand and a piece of olive-green fabric in his left hand. A name tag is pinned to his shirt. The background shows a dirt path and more vegetation under a clear sky.

Be a **nature**

conservation officer

**for a weekend**

The Department of  
Conservation and Land  
Management's successful  
**EcoEducation** program  
has now been extended  
to **Shark Bay**.

by Joanna Moore and Liz Moore

**H**ave you ever imagined that one of the earliest forms of life on Earth—diverse microbial communities called stromatolites—could still exist, and in Western Australia’s own Shark Bay World Heritage Area? Did you know that Gould’s sand monitors (*Varanus gouldii*) have two penises? Did you realise that a captive-breeding program in Francois Peron National Park, part of *Western Shield’s* Project Eden, has led to some 300 threatened or locally extinct native animals being released back into the wild? This knowledge and so much more, along with teaching resources and ways to encourage environmental studies in schools, were gains for a diverse and enthusiastic group of Western Australian teachers.

### Adventure in science

It was the beginning of National Science Week, in August 2005, and the teachers had driven or flown from all over WA to stunning Shark Bay for a weekend science adventure based at a former station homestead in Francois Peron National Park. Teachers were given the chance to be students again, to experience the fascination and excitement of hands-on learning, just as students across the State had been doing through EcoEducation programs for more than 13 years.



The two-day camp—which invites teachers to ‘Be a Nature Conservation Officer for a Weekend’—was a professional learning opportunity for teachers at its most involved and rewarding, providing them with an escape from the concrete of classrooms to one defined by nature.

The weekend aimed to raise awareness about Shark Bay’s World Heritage status, exploring why the area is regarded as globally outstanding, and thus its heightened need for careful

management and protection. Teachers met and helped several Department of Conservation and Land Management (CALM) scientists and nature conservation officers, whose job is to protect and rejuvenate this fragile natural landscape and the many threatened species that live in it.

CALM’s EcoEducation section takes a strategic approach to involving schools and their communities in biodiversity conservation. Its programs provide classroom resources, professional learning for teachers and a wide range of engaging excursions and camps. The success of initial programs at the Perth Hills National Park Centre (formerly known as The Hills Forest Discovery Centre) near Perth led to their expansion to Wellington Discovery Forest Centre near Collie (see ‘Classroom in the Forest’, *LANDSCOPE*, Spring 2005), the Margaret River Eco Discovery Centre,

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**Main** Science teacher Steve Covich being a nature conservation officer.  
*Photo – Joanna Moore*

**Above** Teachers help to clear along a pitfall trap fenceline.  
*Photo – Liz Moore*

**Left** A carpet of everlasting daisies in the Shark Bay World Heritage Area.  
*Photo – Joanna Moore*





**Right** Down to a birrida to monitor animals using pitfall and Elliot traps.

**Below right** Geraldton teacher Angela Britton and Murdoch University lecturer Catherine Baudains check the contents of an Elliot trap.  
*Photos – Joanna Moore*

Dryandra Woodland and the Henderson Environmental Centre. These camps are affordable, practical and supported by curriculum-linked resources. The Shark Bay weekend was part of a plan for CALM's EcoEducation to reach school communities beyond WA's south-west.

### Fragile beauty

Just like students, teachers can be inspired by the bush. They too love the chance to be really close to native animals and plants and to find out about the once-vibrant ecosystem found on Peron Peninsula, which is now recovering from the effects of pastoralism. Learning in the fragile beauty of regions such as Shark Bay reinforces the importance of the conservation lessons they teach.

The weekend gave teachers the opportunity to meet CALM scientists and other staff in an active setting, where they could share some of their enthusiasm and knowledge. The weekend was organised by CALM staff based at Denham and CALM Senior EcoEducation Officer Liz Moore, who facilitated the weekend's activities. The camp program balanced information sessions with hands-on activities and plenty of time for interaction with rangers, scientists, nature conservation officers and local representatives in education and tourism. CALM staff—including Ranger-in-Charge and reptile enthusiast Mark True, Manager of the Project Eden Captive Breeding Centre Nicole Noakes, Project Officer for the World Heritage Area Cheryl Cowell and Project Eden Manager



Colleen Sims—provided close engagement with their diverse roles.

After a get-to-know-you game of 'Threatened Species Animal Bingo', Aboriginal Elder Rodney Drummond, from the Yadgalah Corporation, welcomed teachers to the country. Rodney provided a valuable insight into the Indigenous heritage of the region.

With the help of Colleen and Nature Conservation Officer Kathy Himbeck, the teachers set pitfall, Elliott and cage traps. Shark Bay hopping mice and other local animal inhabitants were captured, measured and released—all part of the hands-on experience in research methods used to investigate and protect them.

### Path of discovery

With guidance from botanist Rob Davis, from CALM's WA Herbarium, teachers discovered the remarkable diversity of Shark Bay's flora, and its central role in supporting fragile wildlife populations. Rob demonstrated how to collect, label and press plant samples for a regional herbarium, and suggested practical ways to create budding botanists from naturally curious children. Sometimes, just teaching a young person how to use a magnifying glass correctly and providing a few plant samples can set them on a self-motivated path of discovery.

Many teachers commented that establishing a regional herbarium was a



particularly suitable and rewarding school project, perhaps for a local block of native bush. Activities like this foster a sense of environmental responsibility in youth, a personal investment central to instilling conservation values, attitudes and behaviours.

### **Western Shield**

This action-packed weekend was part of the *Western Shield* Schools Program, now in its tenth year. Some 75,000 students, teachers and other adults have gained an understanding of the *Western Shield* native fauna recovery program through excursions, classroom resources and professional learning opportunities such as this camp.

*Western Shield* is CALM's initiative to control introduced animals, such as foxes, rabbits, feral cats and goats, as a means of protecting native animal species from predation and habitat loss. Its projects and achievements were a significant part of the weekend, in particular that of Project Eden, CALM's conservation program covering the entire 1050-square-kilometre Peron Peninsula.

The Peron Captive Breeding Centre was established by CALM in 1996. Since then, some 300 animals from four locally threatened or extinct species—the bilby, banded hare-wallaby, mala (or rufous hare-wallaby) and western barred bandicoot—have been bred at the centre, many of which have been included in Project Eden's reintroduction programs. In addition, woylies have been translocated to Peron Peninsula as part of Project Eden and malleefowl have been hatched and raised at the centre from eggs collected elsewhere. The centre also provides a rare opportunity to study these animals and to gain a greater understanding about how such creatures feed, breed and behave in arid environments. Such research will increase the chances of conserving threatened



**Above left** Teachers undertake a guided tour of the Peron Captive Breeding Centre.  
*Photo - Liz Moore*

**Left** A banded hare-wallaby at the breeding centre.  
*Photo - Jana Sie*



**Above** Nicole Noakes, manager of the breeding centre, with a bilby.  
*Photo – Joanna Moore*



**Above right** Project Eden manager Colleen Sims shows off a bobtail lizard.

**Right** Nature Conservation Officer, Kathy Himbeck, displays a spinifex hopping mouse.  
*Photos – Liz Moore*

species in the Shark Bay World Heritage Area and across Australia.

### Animal magnetism

The weekend gave this group of educators time to encounter threatened animal species whose causes they will be championing. Normally, the Peron Captive Breeding Centre can be visited only by volunteers, but Nicole's guided tour gave the teachers special insights into wildlife that will make it even easier for them to interest their students.

Nearby Monkey Mia is a hub of research, not only on its iconic species, the bottlenose dolphin, but on dugongs, several species of turtles and even seagrasses—complex plants that are the basis of the bay's food chain and environmental balance. Massive seagrass meadows, including the world's largest at 1030 square kilometres, provide food sources and shelter for small crustaceans and fish, right through to Shark Bay's 10,000 resident dugongs, approximately one eighth of the world's dugong population. Monkey Mia Visitor Centre provides visitors with a



worthwhile insight into the complex interrelations between the park's various ecosystems and native populations and, on this weekend, also enlightened our group of teachers.

### World Heritage values

The Shark Bay World Heritage Area, approximately 850 kilometres north of Perth, covers about 22,000 square kilometres. Roughly 70 per cent of this area is water. Two large peninsulas create a 'W'-shaped shoreline of 1500 kilometres, which varies from rugged sea cliffs to sheltered bays of white sand and shells.

Shark Bay is one of only 16 World Heritage Areas that meet all four of the criteria that define World Heritage

status. These criteria are: outstanding examples representing the major stages of the Earth's evolutionary history; outstanding examples of significant ongoing geological processes; extraordinary natural phenomena such as areas of exceptional beauty or where significant natural and cultural elements combine; and significant natural habitats where threatened species of outstanding universal value still survive. The professional learning weekend could provide only a taste of what the Shark Bay region has to offer.

A study of the Shark Bay World Heritage Area is useful for exploring the complexities involved in managing natural resources alongside the economic demands of commercial



**Left** The Peron Homestead.  
Photo – Joanna Moore

### The setting

The hum of the generator kicks in about 6.30 am but it's no chore to rise, despite yesterday's full schedule and today's ahead. The distinct call of the chiming wedge-bill (*Psophodes occidentalis*) has recently started its musical accompaniment to the soft tin-scraps of the homestead windmill. The sounds seem a perfect background to the clear morning air which rejuvenates and inspires, and to the dew-freshened vegetation all about the homestead. Time to make the dream of a dawn soak in the artesian-fed hot tub a reality.

The experience of staying in the 1950s-built Peron Homestead is a rare one—tourists in general are not permitted to stay and neither are students, as it usually only accommodates CALM staff and volunteers. Homestead hosts during the camp, Tani and Frank, took care of the property and were a further source of information about the peninsula landscape.



The chiming wedge-bill.  
Photo – Babs and Bert Wells/  
CALM

fishing, tourism, pastoralism and salt mining industries. With the guidance of CALM staff, the teachers gained an understanding of the complicated issues and competing interests which must be considered in management decisions. The region, and in particular Francois Peron National Park, is an excellent case study which demonstrates the centrality of rigorous scientific research to good management decisions.

The Shark Bay World Heritage Area offers a range of possibilities for school groups on camp. They come from the Midwest, Geraldton and Exmouth, the Goldfields and as far afield as Perth. Discovering what it means for a region to be internationally recognised for protection enables young people to understand, for example, the reasons for careful management of tourism and

recreational activities. Along with a better understanding of the area's once-vibrant and now steadily recovering ecosystems, comes an investment for its future protection and a will to cherish what it has to offer.

### Learning areas

The capacity of EcoEducation to benefit a wide range of students was indicated by the diversity of teachers who attended the camp. The 22 educators were from independent and government schools in metropolitan, regional and remote locations, and from primary, secondary and tertiary learning levels. Most taught in the learning areas of Society and Environment, and Science (including Biology), while the university staff were involved in training pre-service teachers.

Speaking on behalf of local CALM staff, Mark True described the weekend as "a chance to showcase the park"; to expose teachers to the many opportunities that Francois Peron and the World Heritage Area as a whole offer for observation and involvement in conservation activities.

Teachers enjoy and need the opportunity to get together and support one another and to exchange stories and ideas, experiences and goals. While the camp was certainly about appreciating the natural environment and spreading the messages of conservation and environmental management, it was also about providing topical and relevant case studies for outcomes-based education and encouraging supportive teacher networks.

The participants talked about how they could integrate this experience with their work as educators; while wading through the glassy water at Monkey Mia; while socialising and networking at Saturday night's informal barbecue; and even while soaking in the artesian-fed hot tub under the stars each night. For many, their newfound passion for this special part of the natural world will have a lasting impact on their approach to teaching.



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Teachers interested in attending the 2006 Shark Bay weekend camp on August 19–20, or other *Western Shield* camps to be held in WA's south-west, may contact Liz Moore.

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