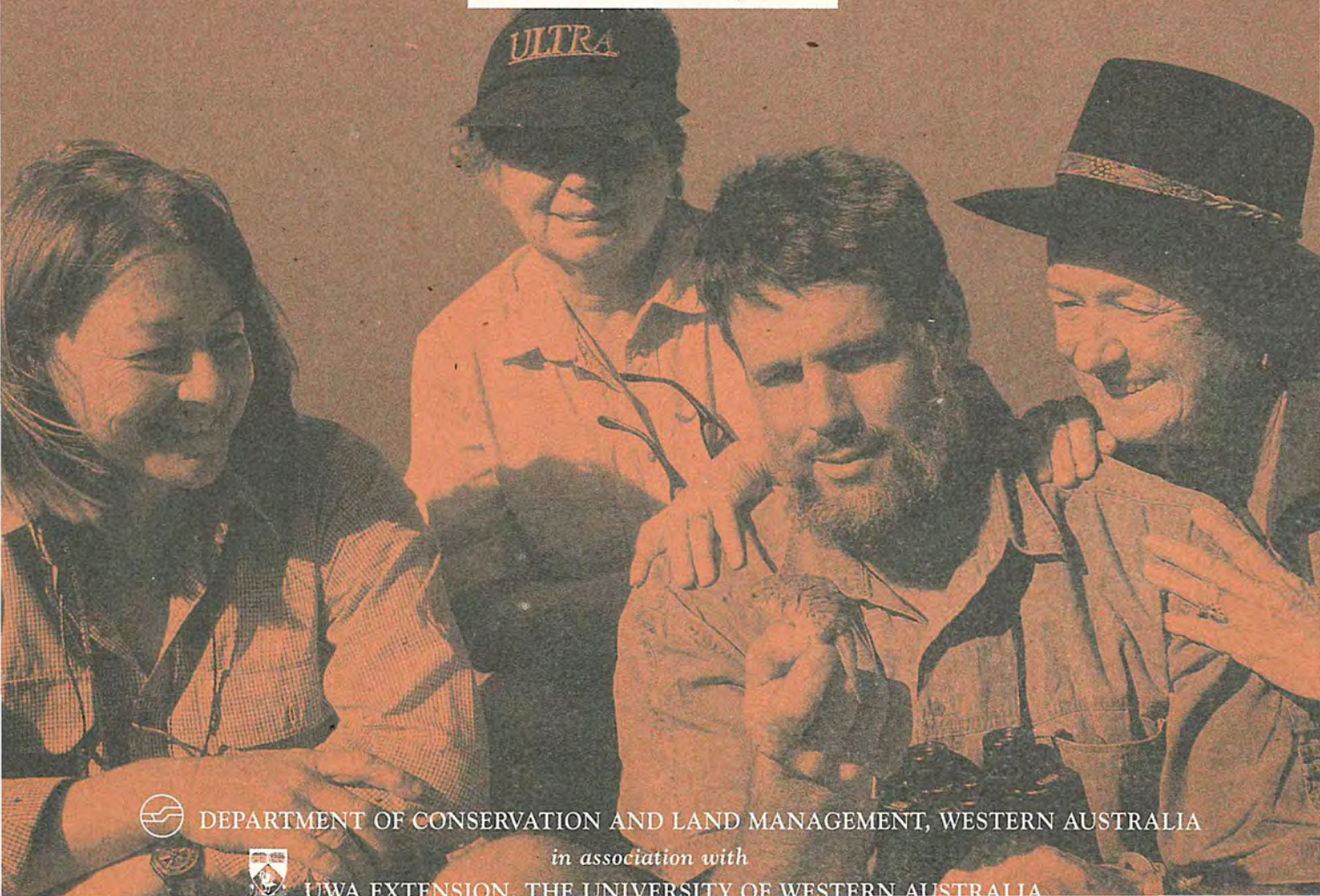
1999

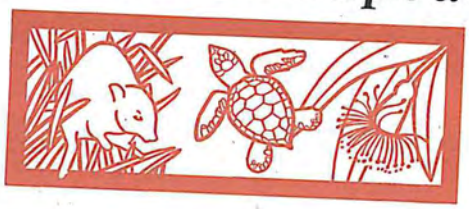
LANDSCOPE EXPEDITIONS PROGRAM

We have
a place for
you at the
frontier of
discovery



DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT, WESTERN AUSTRALIA
in association with
UWA EXTENSION, THE UNIVERSITY OF WESTERN AUSTRALIA

1999 LANDSCOPE Expeditions



LANDSCOPE

W.A.'s CONSERVATION, FORESTS AND WILDLIFE MAGAZINE

Dear Friends,

Welcome to the 1999 program of *LANDSCOPE Expeditions* which also includes a preview of some expeditions being offered in the year 2000.

Come with us and join scientists and regional staff from WA's Department of Conservation and Land Management (CALM) in field-based study and research projects in remote parts of the State. You'll make new friends while you work on important conservation projects and see things that your family, friends and neighbours have never seen and may never see except on a *LANDSCOPE Expedition*. The expedition contribution you pay will make the study and research possible. Your enthusiasm, commitment and ideas will make it all happen.

The 1999 expeditions provide you with an opportunity to view an eclipse with the Government Astronomer; to be part of the largest wildlife conservation project in Australia; to travel in the footsteps of Ernest Giles the explorer to the Little Sandy Desert; to observe migratory shorebirds on the Eighty Mile Beach; to study plants and birds in the Kimberley's Osmond Range and Bungle Bungle massif; and much, much more. And, in the new millenium, voyage with us back into history as we explore the Zuytdorp coast and the Montebello Islands.

You get more on a *LANDSCOPE Expedition*. We provide you with a written briefing, a pre-trip meeting with the expedition leaders, a copy of the trip diary, an illustrated expedition report and a reunion where you can share your experiences. And that's not all—if you're a repeat expeditioner, we'll give you a 10% discount on any trip in this brochure (see page 11).

You don't have to be a scientist to join a *LANDSCOPE Expedition*. These experiences are open to people from all walks of life, and the only qualifications are good health, an interest in nature conservation, a desire to be part of a team, and a sense of humour.

Won't you go bush with us in the cause of nature?

Ron Kawalilak
EXECUTIVE EDITOR, LANDSCOPE

PS For more information on *LANDSCOPE Expeditions* visit CALM's NatureBase at http://www.calm.wa.gov.au. Even if you can't join us on an expedition just now, you can still be part of the conservation and management of WA's unique natural heritage by becoming a subscriber to CALM's award winning *LANDSCOPE* magazine. See the back cover for more details.

DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT
Locked Bag 29, Bentley Delivery Centre, Western Australia, 6983

1999–2000

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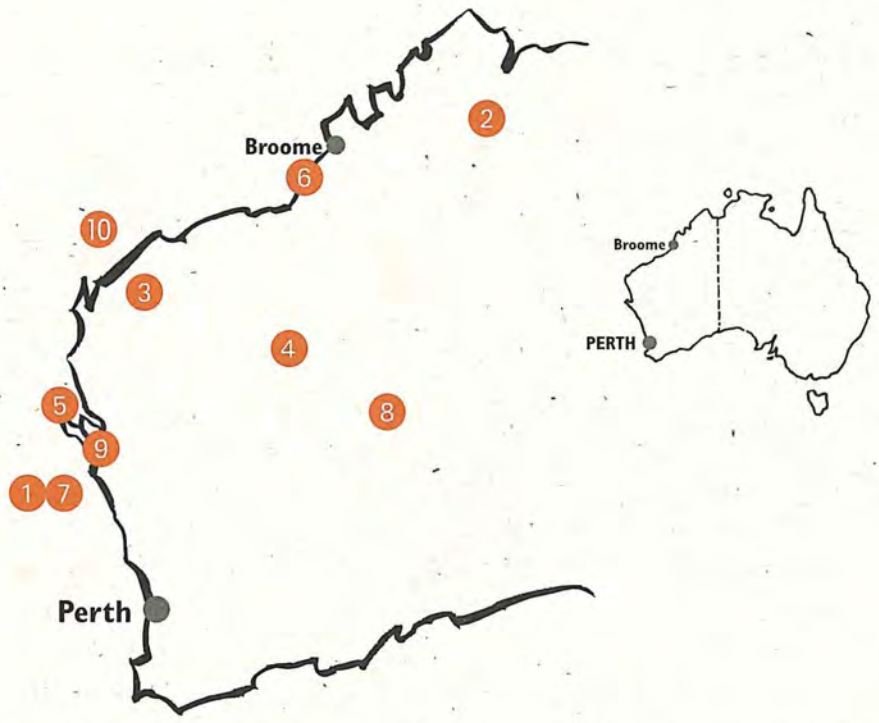
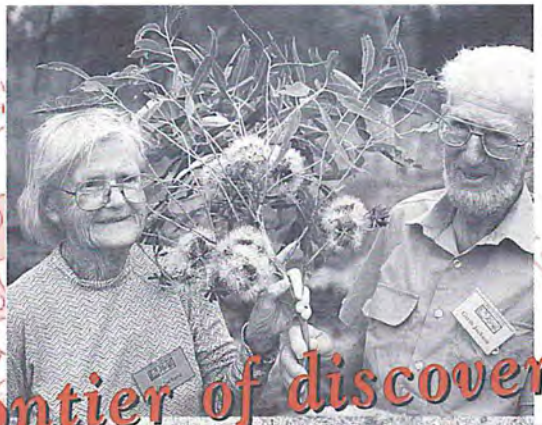


Cover: LANDSCOPE expeditioners Sue Clarkson, Bev Ockerby and Daphne Edinger with zoologist Dr Ric How observing a stripe-faced dunnart in the Tanami Desert. Photo – Kevin Kenneally

Join us at the frontier of discovery



1999

LANDSCOPE Expeditions

Lend your body to research...

LANDSCOPE Expeditions are non-profit, self-supporting study and research projects. Since their inception in 1992, the expeditions have been offered by the Department of Conservation and Land Management (CALM) publication *LANDSCOPE*, a quarterly magazine devoted to wildlife, conservation and environmental issues in Western Australia. They are offered in association with UWA Extension, a department of The University of Western Australia.

CALM is the Western Australian Government agency responsible for the management and sustainable use of the State's 20 million hectares of national parks, conservation parks, marine parks, State forests and timber reserves, nature reserves and marine nature reserves. It is also responsible for conserving native plants and animals throughout the State.

UWA Extension has been operating as a public outreach arm of The University of Western Australia since 1913. It is a Centre for Continuing Education and promotes community awareness through a variety of means, including educational travel.

CALM scientists and regional staff identify the research projects and lead the expeditions. CALM and UWA administer the expeditions. The private sector and local communities are contracted to provide logistical support.

LANDSCOPE Expeditions answer the need for research to protect the environment, while they respond to the demand for first class interpretation by scientists and specialists. They provide paying volunteers with an opportunity to work alongside scientists and to promote wider cooperation in addressing conservation and land management challenges in Western Australia. Any member of the general public can be involved subject to fitness. You must be 13 years of age or over to be registered as a CALM volunteer.

You can visit and gain an understanding of remote or inaccessible places. You can have the satisfaction of knowing you have contributed to our knowledge of threatened environments and endangered species. Unique photo opportunities and the chance to see and handle unusual animals are a bonus.

Participants are not the only beneficiaries. The community also profits from the enriched lives of its members, and from the benefits that flow on from the research findings and outcomes. Future generations benefit from the natural and cultural resources volunteers help to identify and preserve. And, on a global scale, *LANDSCOPE Expeditions* help to perpetuate cultural and biological diversity.

UWA EXTENSION TRAVEL AGENT'S LICENCE NO. 9TA00454

DON'T MISS OUT – BOOK EARLY

Most expeditions are limited to 12 people. Please book as soon as possible so you don't miss out on the expedition of your choice. Flights and accommodation in the north-west are in high demand—another good reason to make your travel plans early.

CALM VOLUNTEERS

When you sign up for a *LANDSCOPE Expedition* you are automatically registered as a CALM volunteer. You will be given a volunteer's hat and will receive free copies of *CALM News*. You are also entitled to take part in a range of other volunteer activities, should you so wish. Being a CALM volunteer offers you the opportunity to develop a greater awareness and understanding of nature conservation and to play an active role in managing CALM lands. Volunteer activities are available in the areas of information, research, management, maintenance and campground hosting.

1999

An Astronomical Experience and Abrolhos Odyssey

Geraldton, Greenough and Abrolhos Islands, Western Australia. February 15–20

Dr James Biggs, Government Astronomer, Perth Observatory, CALM
Kevin Coate, Naturalist and Ornithologist

Observe and photograph a rare and spectacular annular solar eclipse with the Government Astronomer. Then undertake a four day voyage to the islands of the Houtman Abrolhos Archipelago, renowned for their marine environment, birdlife and history. Learn about shipwrecks, snorkel in the crystal waters, and make bird observations. In the evenings, hear tales of the islands' 'angry ghosts' and study the starry canopy as did shipwrecked sailors before you.

Few natural events are as dramatic as a solar eclipse. We will observe the eclipse from the historic settlement at Greenough, south of Geraldton. A solar eclipse is a reasonably rare event that occurs when the sun, moon and earth all line up in space, and an annular solar eclipse occurs when the moon is relatively far from the earth and thus doesn't quite block out all the sun.

Australian sea-lions. Photo – Kevin Coate

Accompanied by the Government Astronomer and one of WA's best known naturalists we will then voyage to the Abrolhos Islands. The low, windswept limestone islands are surrounded by a maze of reefs and channels. The vegetation is primarily saltbush, beach spinifex and dwarf coastal shrubs. The Abrolhos is home to many varieties of tropical marine life, carried there by the warm waters of the Leeuwin current. Reptiles thrive and the tammar wallaby and Abrolhos bush rat are found on some islands. Marine mammals include Australian sea-lions, dolphins and whales. Some 95 bird species occur on the islands, and accumulations of guano were mined up until the mid 1940s. Rock lobsters are fished commercially from March to June.

FIELD WORK

Astronomy: Observe and photograph the annular solar eclipse at Greenough. At the Abrolhos, the Government Astronomer will give you a guided tour of the night sky, explain the constellations and inform you about the latest astronomical theories on many objects visible through portable telescopes or your own binoculars. Should conditions allow, he will explain the basics of astronavigation.

Natural history: The Abrolhos islands are a precious resource: conservation, fishing and tourism uses need to be maintained in a sustainable way. There will be opportunities to snorkel in the crystal clear waters, for bird watching and for making natural history observations. Information gathered by the expedition will be made available to the government authorities responsible for managing the islands.

CONDITIONS

The expedition will commence in Geraldton where the first night will be spent in a motel. Volunteers will be transported by road to Greenough to view the annular solar eclipse, then spend a second night in Geraldton before boarding the charter vessel for the voyage to the Abrolhos. The islands are about 60 kilometres west of Geraldton. Volunteers will sleep on board for three nights while at the Abrolhos, as camping on the islands is not permitted. Visits ashore to several of the islands will be made during the course of the expedition. Meals are provided but you are expected to help with some tasks.

RELATED INTERESTS

Astronomy, bird watching, snorkelling, photography, small boat handling, historical research, island biogeography.

DEPARTURE POINT

The expedition starts and finishes in Geraldton, Western Australia.

INCLUSIONS

Pre-trip briefing, ground transport from Geraldton to Greenough and return, two nights accommodation and meals at the Batavia Motor Inn, Geraldton, four days ocean-going transport on a charter vessel, meals, research equipment and supplies, thermal mug, duffel bag, volunteer hat, written briefing, field gear (except for personal items such as sleeping bags and binoculars), expedition diary and report, reunion.

NOT INCLUDED

Travel to departure point.
Medical treatment or emergency evacuation expenses.
Alcoholic beverages and other personal expenses.
Snorkelling equipment and fishing gear.

CONTRIBUTION

$1595

1999

Secrets of the Sandstone—The Osmond Range and Bungle Bungles

Purnululu National Park, South East Kimberley Region, Western Australia. May 1–11

Kevin Kenneally, Coordinator, *LANDSCOPE Expeditions*
Daphne Edinger, Honorary Research Scientist, CALM
Kevin Coate, Naturalist and Ornithologist
Dr Ric How, Senior Curator, WA Museum of Natural Science
Ben Tannock, District Wildlife Officer, CALM, Kununurra

Part of the mystique of the Purnululu region is that, until recently, it was known only to the local Aboriginal people, pastoralists, stockmen, and a few others. Only after widespread media promotion in the early 1980s has the general public become aware of this hidden jewel of the East Kimberley. The spectacular Bungle Bungle massif, a major feature of the Purnululu region, is an intricate maze of beehive shaped peaks, narrow gorges lined with majestic fan palms, and soaring cliffs with many seasonal waterfalls and rock pools.

Purnululu National Park and Purnululu Conservation Reserve are located approximately 160 kilometres south of Kununurra. Much of the appeal of the Park and Conservation Reserve can be attributed to their remoteness and difficulty of access. In the languages of the Kija Aboriginal people of the middle Ord River system, Purnululu is the descriptive name given to an area dominated by friable sandstone features. It refers both to the Bungle Bungle massif and to the area surrounding it and is an apt name for the area.

Bungle Bungle massif. Photo – Kevin Kenneally

Since the arrival of Europeans, the pastoral industry has been a major influence in the area. Despite the common perception of the 'rugged Kimberley' as a tough and resilient land, the area is actually very fragile, as demonstrated, for example, by the apparent increase in soil erosion that has taken place along the Ord River since the first pastoralists arrived in 1884. Consequently, major management priorities are to actively encourage rehabilitation of native plants and animals and to maintain the various plant ecosystems, with particular emphasis on rare and endangered plant and animal species.

Detailed biological survey information on the flora and fauna of the South-East Kimberley Region is limited. However, we do know from some studies already conducted that several plant species exist in the Park which were previously not recorded in Western Australia or are of very limited occurrence. In particular, the sheltered, moist habitats of the Osmond Range and Bungle Bungle gorges are of conservation significance. Savannah and tropical grassland ecosystems of the Park are important conservation features.

The natural, cultural and scenic values of the closed forest landscapes and surrounding woodlands of the Osmond Range make this area a high priority for inclusion within the National Park. Some areas are already included in the Conservation Reserve and just need to be transferred to the National Park. Extension of the National Park to include parts of the Osmond Range would increase the number of terrestrial vertebrate species known from the Park and Conservation Reserve by approximately 5%, including many Torresian species at the local southern limit of their range. It would also place in a reserve the clawless gecko (*Crenadactylus ocellatus*) known from no other conservation reserve or national park in north-western Australia.

FIELD WORK

This expedition will journey through little visited areas of Purnululu National Park and Purnululu Conservation Reserve, concentrating on the Osmond Range. Participants will help collect, press and document plants, record vegetation communities, observe birds and make natural history observations at a variety of locations in the Osmond Range and Bungle Bungles. The expedition will provide much needed biological knowledge of this poorly known area, and the data collected will be used to make recommendations for nature conservation and management of the area.

CONDITIONS

The expedition will begin and end in Kununurra. The first night will be spent in twin share accommodation. We will travel in an air-conditioned 4WD vehicle, mostly on unsealed tracks. Some tracks through the Osmond Range may be very rough. On site there will be opportunities for exploration. There will be a range of activities to suit differing levels of fitness among volunteers. After leaving Kununurra we will be camping under the stars in bush camps with no facilities. Meals and camping gear will be provided but you will be expected to help with camp chores. At times, water may be limited. The weather at this time can be warm with day time temperatures ranging from 18 to 35 degrees Celsius. Nights can be cold with temperatures as low as 8 degrees Celsius.

1999

RELATED INTERESTS

An interest in bird watching, wildlife ecology, botany, photography and adventure travel will be useful.

DEPARTURE POINT

The trip starts and finishes in Kununurra, Western Australia

INCLUSIONS

Pre-trip briefing, shared resort accommodation in Kununurra, ground transport, camp fees, meals, research equipment and supplies, thermal mug, duffel bag, volunteer hat, written briefing, camping and field gear (except for personal items such as sleeping bags and binoculars), expedition diary and report, reunion.

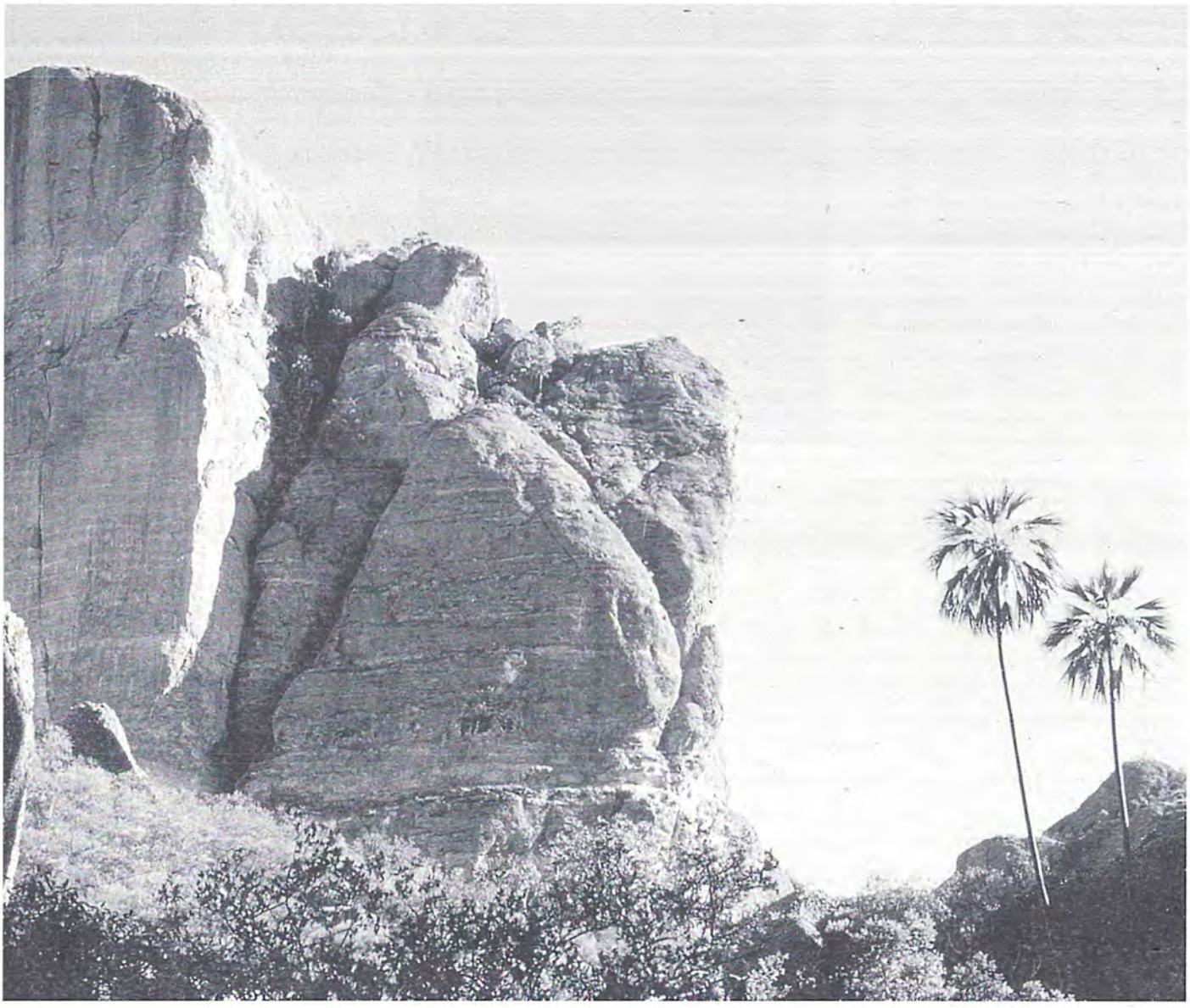
NOT INCLUDED

Travel to departure point.
Optional helicopter flight over the Bungle Bungles.
Medical treatment or emergency evacuation expenses.
Some refreshments en route.
Alcoholic beverages and other personal expenses.

CONTRIBUTION

$2595

Fan palms in the Purnululu National Park. Photo – Kevin Kenneally



1999

Archaic Animals of the Pilbara

Cane River Station, Pilbara Region, Western Australia. May 22–31

Dr Peter Kendrick, Regional Ecologist, CALM Karratha
Chris Muller, Regional Manager, CALM Karratha

This is a rare opportunity to handle and identify a wide variety of fauna, mainly small mammals and reptiles adapted to the ancient Pilbara landscape. Travel to the former Cane River Pastoral Station, purchased by CALM in 1996, and help scientists with the first ever survey of the fauna of this area. Cane River Station is some 80 kilometres inland from the north west coastal town of Onslow and the Ashburton River.

Originally home to the Thalangi people, this area of the Pilbara has a rich history of involvement in the pastoral, pearling and mining industries and as a mainland base for oil exploration activities off the coast. Cane River Station, a former sheep station, features land systems which are not otherwise represented in the State's conservation estate.

Stripe-faced dunnart. Photo – Babs & Bert Wells/CALM

The expedition will depart from Perth and make its way to Carnarvon, situated at the mouth of the Gascoyne River, where we will spend one night before travelling on to Cane River Station on day two. Cane River Station straddles the North West Coastal Highway and the old homestead is about 60 kilometres from Nanutarra Roadhouse. There will be an opportunity to explore Onslow, the picturesque ruins of Old Onslow, and the lower reaches of the Ashburton River.

FIELD WORK

Assist with the fauna survey using a variety of trapping techniques, and help with birdwatching, natural history observations, hand foraging, bat-netting and ultrasonic recording. We can expect to see a range of small carnivorous marsupials, from the mulgara down to the tiny ningaui and the even smaller planigale. We might find native cats (*Dasyurus*), and reptiles will be many and varied including many skinks, legless lizards, dragons, goannas and geckos. This is about the only way people will ever see Australian native animals such as these in their natural habitat. Birds of interest include spinifex birds, grey falcons, grey honeyeaters, stone curlews and bush turkeys. During the trapping program, expedition members will become familiar with identification techniques using the guides, keys and microscopes provided. As the area has never before been biologically surveyed, there may be some surprises in store for us.

CONDITIONS

We will be bush camping on a former station. There will be protection from the weather, and we will be sleeping in swags and cooking over an open fire. A small generator will provide lighting and refrigeration. Showers will be available. Meals and camping gear will be provided but you will be expected to help with camp chores. Access to the trapping sites will be by four wheel drive vehicles. The country is generally low relief, with occasional ranges. Most surfaces are sandplains, colluvial plains and sand dunes. The ranges are striking features, rising abruptly out of the landscape. The Cane River has a fairly deeply incised channel through the study area and there are a few permanent pools. The weather at this time can be warm with day time temperatures in the vicinity of 28 to 30 degrees Celsius. Nights can be cool with temperatures dropping to about 14 to 15 degrees Celsius. There will be daily radio communication with CALM's Karratha office.

RELATED INTERESTS

Observation skills and an interest in wildlife ecology, bird watching and photography will be useful. You should be comfortable camping in fairly primitive conditions.

DEPARTURE POINT

The expedition starts and finishes in Perth, Western Australia.

INCLUSIONS

Pre-trip briefing, shared accommodation in Carnarvon on forward and return journeys, ground transport, meals, research equipment and supplies, thermal mug, duffel bag, volunteer hat, written briefing, camping and field gear (except for personal items such as sleeping bags and binoculars), expedition diary and report, reunion.

NOT INCLUDED

Medical treatment or emergency evacuation expenses.
Some refreshments en route.
Alcoholic beverages and other personal expenses.

CONTRIBUTION

$2095

Mallee, Mulgara and Thorny Devils—Exploring the Little Sandy Desert

Little Sandy Desert, Western Australia. September 12–21

Dr Stephen van Leeuwen, Research Scientist, CALMScience Division, Karratha
Dr Tony Start, Research Scientist, CALMScience Division, Kununurra
Bob Bromilow, Phil Fuller, Technical Officers, CALMScience Division
Brad Maryan, David Robinson, Honorary Technical Officers

Follow in the footsteps of explorer Ernest Giles on an expedition to the Little Sandy Desert, deep in the heart of Western Australia. See spectacular wildflowers, secretive marsupial mammals, abundant birdlife, elusive skinks, nocturnal geckos and remarkably contrasting scenery dominated by red sand ridges and blue sandstone peaks.

The expedition will also camp at other remote and isolated sites like Dreamtime Gully and Giles' Red Ridge—sandstone breakaways with permanent gnamma holes supporting diverse assemblages of flora and fauna. These sandstone ridges are also plentiful repositories of Aboriginal history.

The Little Sandy Desert was recognised in 1969. Limited biological investigations have been carried out in this poorly known region. The first was undertaken by Ernest Giles during his 1876 expedition, when he collected the original specimen of *Eucalyptus rameliana*. For over a century Giles' mallee was unable to be found. In 1991, however, a keen naturalist rediscovered Giles' mallee in the Little Sandy Desert some 500 kilometres beyond the Alfred and Marie Range!

Giles' mallee (*E. rameliana*). Photo – Stephen van Leeuwen

This rediscovery provided the impetus for CALM to carry out a biological survey of the southern Little Sandy Desert, and many remarkable, interesting and unusual discoveries have since been made.

FIELD WORK

Volunteers will help to sample and collect data on the biota in the southern Little Sandy Desert. This will be achieved by establishing quadrats, installing pit-fall traps, burning of spinifex, use of ultrasonic bat detectors, nocturnal spotlighting and opportunistic collecting. Emphasis will be placed on documenting the flora and fauna of habitats not previously sampled by CALM.

CONDITIONS

We will travel in an air-conditioned, 4WD vehicle. From Perth, we travel the Great Northern Highway to Cue, then head west to the Wilgemia Ochre Mine and camp. We then travel via Tuckanarra and Meekatharra, and Kumarina and Beyondie Stations to arrive at our Willie Soak camp. Bush camps, with no facilities, will be in mulga and sheoak woodlands and occasionally spinifex. Leaving Willie Soak, we will travel through trackless terrain over dunefields to the remote and expansive Yanneri Lake and associated floodouts of Ilgarari Creek.

Sites will be reached by travelling across country and along the abandoned No. 1 Vermin Proof Fence surveyed and constructed under the supervision of Alfred Canning in 1905-06, before the establishment of the Canning Stock Route. Meals and camping gear will be provided, but you will be expected to help with camp chores. Water will be limited to drinking and cooking requirements: showers and washing water will be unavailable for seven days. Days will be warm, but nights can be very cold. On the final night we will camp and have dinner at Kumarina Roadhouse before travelling to Perth.

RELATED INTERESTS

An interest in desert and wildlife ecology, botany, bird watching, herpetology, photography, Aboriginal archaeology, early and modern-day Australian explorers, bush walking and outback driving would be useful. You should be comfortable camping and working under primitive desert conditions in remote isolated areas.

DEPARTURE POINT

The expedition starts and finishes in Perth, Western Australia.

INCLUSIONS

Pre-trip briefing, camp fees, ground transport, meals, research equipment and supplies, thermal mug, duffel bag, volunteer hat, written briefing, camping and field gear (except for personal items such as sleeping bags and binoculars), expedition diary and report, reunion.

NOT INCLUDED

Medical treatment or emergency evacuation expenses.
Some refreshments en route.
Alcoholic beverages and other personal expenses.

CONTRIBUTION

$2195

1999–2000

LANDSCOPE Expeditions

How to Apply

1. Complete the attached application form.
2. Enclose your $200 initial contribution to secure your place.
   Please consult the application form for detailed instructions on how to pay.
3. Mail to: *LANDSCOPE Expeditions*
   UWA Extension
   The University of Western Australia
   NEDLANDS WA 6907
   AUSTRALIA

We will then send you a receipt, forward your details to the project leader and advise you of the next stage.

PLEASE READ ON BEFORE SENDING YOUR APPLICATION.

GENERAL INFORMATION

WHY JOIN AN EXPEDITION?

You care about the environment. You care about sharing the world with all other species in a sympathetic, non-threatening way. You care enough to want these vital research expeditions to take place. Without your contribution, much research would not take place. You care enough to want to take part. *We* care enough to want *you* to have the satisfaction of helping our environment in a direct, practical way, by joining scientists in the field and contributing, both by your donation and your work involvement, to these very necessary projects. We also care that you have a lot of fun and personal satisfaction along the way!

LOYALTY DISCOUNT

A 10 per cent discount is offered to repeat expeditioners (and to new expeditioners who book on more than one trip in this brochure).

WHO CAN PARTICIPATE?

Almost anybody! Most research expeditions do not require previous training or experience—only a willingness to work and learn. Limited places are available and are usually allocated in order of receipt. However, if the expedition is over-subscribed, the final choice of participants will be made in conjunction with the principal researchers, to ensure the best possible research outcomes for each expedition. Wilderness experiences, skills in observation, drawing, photography and skills and qualifications such as first aid, 4WD competence, outback safety and bushcraft can be very helpful.

WHEN IS MY FULL CONTRIBUTION DUE?

Your full contribution is due 60 days prior to departure. After this time, spaces held by applicants with outstanding balances are subject to forfeiture and become available to new and wait-listed applicants. Late applicants should submit the full contribution when applying for a place.

WHAT DOES MY CONTRIBUTION COVER?

Your financial contribution makes the research possible. It covers costs incurred at all stages of the research project, and includes funding of scientific staff, field camps, expedition vehicles, food, accommodation, equipment, instrumentation, fuel and freight plus follow-up work. One hundred per cent of funds received flow directly back into the study and research projects.

WILL I NEED A DOCTOR'S CERTIFICATE?

It's very important that you realistically evaluate your own ability to meet the physical and emotional requirements of the project. Most expeditions will not require a medical certificate, but the case may be different for individual expeditions. However, if you are over 60, a doctor's certificate of fitness is mandatory.

WHAT HAPPENS IF I'M NOT ACCEPTED FOR A PROJECT?

Once the review process has been completed, you will be notified of the results of your application. If we are unable to place you on the expedition of your choice, you may remain on the waiting list or withdraw your application and your $200.00 will be refunded.

IF MY PLANS CHANGE, MAY I CANCEL?

If cancellation in writing is received by *LANDSCOPE Expeditions* more than 60 days prior to departure we assure a full refund (less an administrative fee of $50). For cancellations received between 30 and 60 days prior to departure we will refund 50% of your contribution. If a cancellation is received less than 30 days prior to departure your entire contribution is non-refundable. We regret that we cannot make exceptions to the cancellation policy for any reason, including personal emergencies. In the event of late cancellation, your contribution may be claimed as a tax deductible donation to research.

WHAT IF THE PROJECT IS CANCELLED?

If *LANDSCOPE Expeditions* cancel the expedition prior to departure, your contribution will be refunded in full. However, we are not responsible for non-refundable airline or other tickets or payments, or any such similar penalties that may be incurred due to the cancellation of an expedition. If, after departure, a trip has to be terminated due to unforseen circumstances, no refunds will be made. To avoid such penalties, we strongly recommend the purchase of trip cancellation insurance.

TRAVEL TO THE POINT OF DEPARTURE

Travel to the point of departure for the expedition (this varies with each project) is entirely your responsibility. However, for the purposes of coordination, please forward a copy of your travel itinerary to *LANDSCOPE Expeditions*.

EXPEDITION CONDITIONS

Research expeditions are located in various parts of the State of Western Australia. Many will be based in remote locations where you will experience wilderness conditions. Accommodation styles will vary from outback camps, where you will sleep in swags or tents, to research centres, to modest hotels/motels. Please refer to the expedition brochure for more details about the area you are interested in visiting. You may be some distance from medical facilities, however, radio contact will be maintained through the Royal Flying Doctor Service. If you have special needs (e.g. vegetarian diet) please advise us in your application, and be prepared to bring your own private supplies. Field research inevitably involves unforeseen situations, and flexibility and cooperation are essential.

TRAVEL INSURANCE

We strongly encourage you to obtain travel insurance to cover you for such contingencies as lost or stolen baggage, personal liability, cancellation due to illness, termination due to illness or death at home, and emergency assistance as a result of accident, illness or rescue operation. *LANDSCOPE Expeditions*, UWA Extension and their associates will not be liable for damage, losses or additional expenses incurred. Emergency transport, medical or hospital costs resulting from illness or accident during the expedition are entirely the responsibility of the person receiving such care.

UWA EXTENSION TRAVEL AGENT'S LICENCE NO. 9TA00454

Observing birds on the Abrolhos. Photo – Kevin Coate

1999–2000

LANDSCOPE Expeditions

Application Form

Tell us about yourself...

Title .....Given name .....Surname .....

Address .....

..... Postcode .....

Telephone number (home) ..... (business) ..... (fax) .....

Email address .....

Preferred name on name badge.....

Expedition choice:

1 ..... Dates .....

2 ..... Dates .....

Date of birth ..... Sex ..... Height ..... Weight .....

Occupation (indicate if retired) .....

Education/occupational background .....

Contact in case of emergency..... Relationship .....

Address .....

..... Postcode .....

Telephone number (home) ..... (business) .....

I HAVE EXPERIENCE IN

- ☐ First Aid
- ☐ Camp cooking
- ☐ Boat handling
- ☐ Swimming
- ☐ Snorkelling
- ☐ Hiking
- ☐ Back packing
- ☐ 4WD vehicle driving
- ☐ Surveying
- ☐ Map reading
- ☐ Sketching/illustration
- ☐ Photography/video
- ☐ Computing/electronics
- ☐ Vehicle maintenance
- ☐ Experience with other cultures

INTEREST IN EXPEDITION

Please tell us why you chose this project. What are your expectations? How can your experience help?

Please supply a short description of yourself which will be included in the participant list sent to other team members.

How did you find out about this expedition?

MEDICAL CONDITIONS

Medical treatment may not be available near the research site, so it is important to list any special medical conditions you may have. (A medical certificate is required for participants over 60.)

☐ Diabetes ☐ Epilepsy ☐ Asthma ☐ Heart condition ☐ Allergies (please list below) ☐ Other

Do you require a special diet? If so, please indicate. (Many expeditions take place in remote areas where fresh produce is limited or unavailable. If you require certain foods, please indicate here, as you may need to bring a private supply.)

Do you smoke? ☐ Yes ☐ No Level of vision: Good ☐ Fair ☐ Poor ☐

Do you have any other physical/medical conditions of which your Project Leader should be aware? (e.g. sleepwalking, bad back, previous hospitalisation, major injuries or loss of consciousness). Please explain and supply approximate dates.

PAYMENT DETAILS

Please return the signed and completed application with your $200 initial contribution to:
UWA Extension, The University of Western Australia, Nedlands, Western Australia, 6907, AUSTRALIA.
Cheques payable to: The University of WA—Extension

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Expiry date ..... Cardholder's signature .....

I enclose $ ..... to be applied to my choice of research expedition as indicated on the application form on page 13.

Date of application .....

CONDITIONS OF PARTICIPATION

As members of a *LANDSCOPE Expeditions* research project, participants are expected to adhere to the regulations and policies of the Western Australian Department of Conservation and Land Management (CALM).

Participants whose conduct or behaviour jeopardises the welfare or fulfilment of the project objectives may be required to withdraw.

Neither UWA Extension, CALM nor their associates assumes responsibility, either financially or otherwise, for illness or injury which might occur during an expedition. Emergency transport, medical or hospitalisation costs resulting from illness or accident during the expedition are the responsibility of the person receiving such care. In cases where the Project Leader in consultation with medical authorities considers it necessary, a participant will be sent home or hospitalised.

I am aware that while participating in a field project under the research program certain exposures to risk may occur. These exposures include but are not limited to: accident and/or sickness without readily available medical facilities, the forces of nature, travel on the ground and in the air, and others. In consideration of the right to participate in this program I do hereby assume all of the risks involved and agree to indemnify and hold CALM, The University of Western Australia, their associates, officers and employees harmless for any and all liability that may arise in connection with my participation in the activities which are part of CALM's *LANDSCOPE Expeditions* program.

LANDSCOPE Expeditions reserves the right to make changes in the expedition when conditions such as acts of war, civil strife, forces of nature, airline or charter schedule changes require and/or cancel any expedition with an insufficient number of participants or for any other reason considered detrimental to the success of the project.

I HAVE READ AND FULLY UNDERSTAND THE CONDITIONS OF PARTICIPATION DETAILED ABOVE AND CONTAINED IN THIS BROCHURE.

SIGNATURE .....DATE.....

1999

Beyond the Dreaming—Project Eden

Peron Peninsula, Shark Bay World Heritage Area, Western Australia. September 24–October 1

Keith Morris, Group Manager, Biodiversity Conservations Group
Peter Speldewinde, Research Scientist
Graeme Liddelow, Senior Technical Officer
CALMScience Division

This is your chance to be part of one of the most exciting wildlife conservation projects anywhere in the world. If successful Peron Peninsula, within the Shark Bay World Heritage Area, could become the largest area in Australia in which large numbers of threatened animals roam freely. Already some of the surviving wildlife is beginning to recover. The Shark Bay thick-billed grass wren, a subspecies confined to this area, is becoming more numerous on the Peninsula and spinifex hopping mice are being caught in large numbers. Enjoy close encounters with native mammals and reptiles, assist in the monitoring of reintroduced threatened species, and track their deadly enemies—feral cats.

Project Eden is a bold plan which aims to remove virtually all feral cats and foxes from a massive 1050 square kilometre area of the Shark Bay World Heritage Area, noted for its natural beauty and in particular for the diversity of its land and sea scapes.

The first part of the project, the erection of the feral animal proof fence across the narrow neck of the peninsula and the control of foxes has been achieved. Feral sheep and goats have also been controlled under a World Heritage plan. The numbers of feral cats have been reduced to the point where some native species have now been reintroduced, notably woylies and malleefowl.

Recording wildlife. Photo – Graeme Liddelow

FIELD WORK

Thousands of visitors from all over the world are attracted to this region every year but few, if any, are privileged to engage in the hands-on experiences that this expedition makes possible. See and handle native wildlife. Participate in radio tracking of released woylies and malleefowl. Help researchers trap woylies to check their breeding status. Also, trap small native mammals and reptiles using both pitfall and Elliott techniques and handle, identify and record data on captured animals. At night, spotlight for larger mammals and reptiles. There will be ongoing work on feral cat control. This will provide information on cat biology, home ranges and other data that will be valuable for future control. If you would like to help collect data through daily bird counts, please bring your binoculars along. Participants will also help to photograph, collect, press and record plants of the Peninsula. We will also make time to meet the famous dolphins of Monkey Mia.

CONDITIONS

Travel from Perth will be in an air-conditioned, 4WD vehicle with meals and camping gear provided. The study site is on Peron Peninsula at Shark Bay, 800 km north of Perth. We will be camping on the former Peron Pastoral Station, 10 km from Denham, and 20 km east of Monkey Mia. Meals will be provided but participants are expected to assist with camp chores. Conditions include basic showers and laundry facilities, as well as the nearby artesian bore. One night will be spent camping on the beach at Cape Peron. The days at this time of the year can be warm and the nights cool with temperatures ranging from 8 to 24 degrees Celsius. At this time of year, occasional rain showers could occur.

RELATED INTERESTS

Observation skills and an interest in wildlife ecology, photography, bird watching and botany.

DEPARTURE POINT

The expedition starts and finishes in Perth, Western Australia.

INCLUSIONS

Pre-trip briefing, transport, meals, research equipment and supplies, duffel bag, thermal mug, volunteer hat, written briefing, camping and field gear (except for personal items such as sleeping bags and binoculars), expedition diary and report, reunion.

NOT INCLUDED

Some refreshments en route.

Alcoholic beverages and other personal expenses.

Medical treatment or emergency evacuation expenses.

CONTRIBUTION

$1695

1999

Flying for a Feast—Shorebird Heaven on the Eighty Mile Beach

Eighty Mile Beach, Kimberley Coast, Western Australia. October 8–14

Grant Pearson, Research Centre Manager, CALMScience Division, Woodvale
Dr Petra de Goeij, Dr Pieter Honkoop, Dr Marc Lavaleye, Dr Theunis Piersma, Marine Biologists, Netherlands Institute for Sea Research (NIOZ), Texel Island, Wadden Sea
Danny Rogers, Johnstone Centre, Charles Sturt University, Albury, NSW

This is an opportunity to learn about shorebirds and their diets from some of the foremost experts in the world. Every year, thousands of migratory shorebirds congregate at Roebuck Bay near Broome and at Eighty Mile Beach to the south of Broome on their southward migration from the northern Siberian tundra. The rich mudflats and sandflats provide them with a smorgasbord of living organisms, the distribution and biology of which is poorly understood by science, but relished by the birds, some of which have flown 10 000 to 15 000 kilometres in one stretch to reach it.

These highly specialised birds have an extremely tight energy budget and unintended disturbance by people at their foraging and resting places can have a tremendous negative effect on the wordwide population. Already it is clear that developments along the coastal seaboard may threaten the delicate balance of invertebrate communities and it is important to collect baseline data to record the biota before changes take place. This knowledge is essential if we are to achieve an insight into how human impacts such as tourism and pollution affect shorebird environments.

Shorebirds. Photo – CALM

The expedition will contribute to a study of the relationship between Roebuck Bay and Eighty Mile Beach as shorebird habitats.

As well as helping with a variety of research related tasks, participants will be able to photograph the stunning sunsets over the azure waters of the Indian Ocean, watch the thousands of waders as they congregate on the beach at high tide and take photographs from specially prepared hides.

FIELD WORK

Researchers will collect samples using established coring procedures developed at Roebuck Bay in 1997. These will be sieved, flushed and sorted and the animal contents identified under microscopes. Samples will be collected by travelling across the shallows in a 7 person hovercraft, a 6 wheel drive amphibious buggy or by foot. Expeditioners may assist with a range of worker friendly tasks suitable to all ages and physical conditions, with an emphasis on bird and habitat studies. Data collected will include shorebird counts, species composition and feeding behaviour. Bird counts will be made on Eighty Mile Beach at high tide, on the intertidal area at low tide, and in peripheral wetlands on Anna Plains. Fitter members with a liking for "mud, glorious mud" may help collect samples on the intertidal area, using a global positioning system (GPS) to locate the sites, and taking field notes. Other tasks include sorting of specimens, classification and logistical support.

CONDITIONS

Eighty Mile Beach is situated south of Broome, and lies between Cape Missiessy in the north and Cape Keraudren in the south. Participants will meet in Broome and travel to the Broome Bird Observatory for the first night. Next morning we will travel to base camp, set in a pristine, remote area of the Eighty Mile Beach near Anna Plains Station. Conditions are basic, but fresh water will be carted to the camp site for showers and there is also the Talgarno hot bore a few kilometres away. Meals and camping gear will be provided but you will be expected to help with camp chores. The weather will be hot at this time of the year.

RELATED INTERESTS

Observation skills and an interest in invertebrates, birds, plants, marine fauna, shells, and photography will be useful.

DEPARTURE POINT

The expedition starts and finishes in Broome, Western Australia.

INCLUSIONS

Pre-trip briefing, one night's accommodation at the Broome Bird Observatory, camping equipment, meals, research equipment and supplies, thermal mug, duffel bag, volunteer hat, written briefing, field gear (except for personal items such as sleeping bags and binoculars), expedition diary and report, reunion.

NOT INCLUDED

Travel to departure point.
Medical treatment or emergency evacuation expenses.
Alcoholic beverages and other personal expenses.

CONTRIBUTION

$1695

1999

Seabirds of the Houtman Abrolhos Archipelago

Abrolhos Islands, Western Australia. December 14–18

Kevin Coate, Naturalist and Ornithologist
Daphne Edinger, Honorary Research Scientist, CALM

Voyage to the Abrolhos Archipelago, renowned for its marine environment, birdlife and history, accompanied by one of Australia's best known ornithologists. Some 95 bird species occur on the islands and excellent birdwatching can be expected in the month of December.

The islands of the Abrolhos are most famous for their breeding tropical seabirds. They owe their pre-eminence as a tropical seabird nursery to their location near the edge of the continental shelf in the path of the warm, south-flowing Leeuwin Current. Four species nest in vast numbers: the wedge-tailed shearwater, lesser noddy, common noddy and sooty tern. The last two are found in tropical seas throughout the world; the shearwater is widespread in the Indian and Pacific Oceans; but the lesser noddy is confined to minute parts of the Indian Ocean (one subspecies in the Seychelles and one in the Abrolhos).

Lesser noddy. Photo – Kevin Coate

The first substantial accounts of Abrolhos birds come from the collector-naturalist John Gilbert, who visited Pelsaert, East Wallabi, West Wallabi and other islands in January–March 1843 on behalf of John Gould, the eminent British ornithologist.

The first European account of the Abrolhos was in 1619 by Commander Frederick de Houtman of the Dutch East India Company, who almost ran aground. From this may have come the name Abrolhos, derived from the Portuguese expression *abre os olhos* meaning 'open the eyes' or 'look out'. This warning was not heeded on 5 June 1629 when the *Batavia* ran aground shipwrecking the 300 people aboard. The tragic episodes and heroism that followed the shipwreck have become part of the State's rich maritime history.

The Houtman Abrolhos are an archipelago of 108 islands and rocks lying 60-80 km off the mid-west coast of Western Australia. They are clustered in four groups: the isolated North Island and the Wallabi, Easter and Pelsaert Groups.

The low, windswept limestone islands are surrounded by a maze of reefs and channels. The vegetation is primarily saltbush, beach spinifex and dwarf coastal shrubs. Reptiles thrive and the tammar wallaby and Abrolhos bush rat are found on some islands.

FIELD WORK

The Abrolhos islands are a precious resource: conservation, fishing and tourism uses need to be maintained in a sustainable way. There will be opportunities to snorkel in the crystal clear waters, for bird watching and natural history observations. Information gathered by the expedition will be made available to the government authorities responsible for managing the islands.

CONDITIONS

The expedition will commence in Geraldton where the first night will be spent in a motel, before boarding the charter vessel next morning for the voyage to the Abrolhos. Expeditioners will sleep on board for three nights while at the Abrolhos, as camping on the islands is not permitted. Visits to several of the islands will be made during the course of the expedition. Meals are provided but you are expected to help with some tasks.

RELATED INTERESTS

Bird watching, snorkelling, small boat handling, photography, historical research, island biogeography.

DEPARTURE POINT

The expedition starts and finishes in Geraldton, Western Australia.

INCLUSIONS

Pre-trip briefing, one night's accommodation and meals at a motel in Geraldton, four days ocean going transport on a charter vessel, meals, research equipment and supplies, thermal mug, duffel bag, volunteer hat, written briefing, field gear (except for personal items such as sleeping bags and binoculars), expedition diary and report, reunion.

NOT INCLUDED

Travel to departure point.
Medical treatment or emergency evacuation expenses.
Alcoholic beverages and other personal expenses.
Snorkelling equipment and fishing gear.

CONTRIBUTION

$1695

2000

Buckshot and Breakaways— Plants and Animals of the Gibson Desert

Gibson Desert Nature Reserve, Western Australia. September 4–15, 2000

Dr Per Christensen, Consulting Research Scientist
Graeme Liddelow, Senior Technical Officer
CALMScience Division

So much of Australia's culture and history is based on the outback. Yet most of us live on the perimeter of the continent and know little about our vast heartland. Our deserts are not vast areas of sand, but contain many different landforms and vegetation types which are home to a myriad different and unique animals. Explore the buckshot and breakaways, mulga and spinifex of the Gibson Desert under the guidance of scientists who have worked in the arid zone for many years.

Experience the vastness and isolation of this remote region and see animals and plants that few people ever view. For more than a decade, CALM scientists have been collecting information on this vast area. Over the past few years *LANDSCOPE Expeditions* have been vital in this work. The complex interaction of the animals, the harsh desert environment, fires started by lightning storms and predation by introduced cats and foxes are a central part of the studies. This information is essential to the ongoing effort to re-establish our vanishing desert fauna. CALM's long term aim is to establish viable colonies of mammals which have become extinct from the Australian mainland.

Checking pit traps. Photo – Graeme Liddelow

FIELD WORK

Volunteers will assist with tracking cats and foxes and help to pit trap native animals. Help to handle and identify small mammals and reptiles, search for animals in different habitats and identify birds. Research is also being carried out on the bilby. Little is known of the habits of this fascinating desert animal. Desert flora is also being studied and plant specimens from different habitats will be collected for later identification.

CONDITIONS

The research area is 600 kilometres east of Wiluna and covers 1.8 million hectares. It includes vast, undulating spinifex plains, interspersed with mulga. In places there are salt lakes, claypans, temporary freshwater lakes, spinifex-covered sand dunes and low rocky ranges with occasional breakaways. Access is via the Gunbarrel Highway and we will travel from Perth in an air-conditioned, 4WD vehicle. En route we will stay for one night at Nallan Station and one night at remote Carnegie Station. Once in the desert eight nights will be spent camping under the stars at Eagle Bore Camp. Meals and swags are provided but you will be expected to help with camp chores. Bush showers and basic laundry facilities are available at the main camp but it is planned to spend one night at Alexander Springs and another south of Mount Worsnop in bush camps with no facilities. Expect warm days and cold nights. The final night will be spent at a motel in Coolgardie.

RELATED INTERESTS

Observation skills and an interest in wildlife ecology. Photography, map reading and bushcraft skills would be helpful. You should be comfortable walking and bush camping under desert conditions.

DEPARTURE POINT

The trip starts and finishes in Perth, Western Australia.

INCLUSIONS

Pre-trip briefing, shared accommodation at Nallan Station, Carnegie Station and a motel in Coolgardie, ground transport, meals, research equipment and supplies, duffel bag, thermal mug, volunteer hat, written briefing, camping and field gear (except for personal items such as sleeping bags and binoculars), expedition diary and report, reunion.

NOT INCLUDED

Medical treatment or emergency evacuation expenses.
Some refreshments en route.
Alcoholic beverages and other personal expenses.

CONTRIBUTION

POA

2000

Gardens of the Ghosts—Exploring the Zuytdorp Coast

Zuytdorp Cliffs and Shark Bay World Heritage Area, Western Australia. October 1–7, 2000

Kevin Kenneally, Coordinator, *LANDSCOPE Expeditions*
Daphne Edinger, Honorary Research Scientist, CALM
Kevin Coate, Naturalist and Ornithologist
Greg Keighery, Principal Research Scientist, CALMScience Division

Explore and document the prolific and colourful wildflowers and birds along the Zuytdorp coast, as you learn about its equally colourful history. In 1712 the Dutch ship *Zuytdorp* was wrecked on cliffs north of Kalbarri. Relics of their landing can still be found, but the fate of the survivors is shrouded in mystery. Areas visited by this expedition fall within the Shark Bay World Heritage area and there will be an opportunity to see the ancient stromatolites at Hamelin Pool as well as the famous and little visited Zuytdorp Cliffs. Birdwatchers will have the opportunity to look for the thick-billed grasswren, only found in the Shark Bay region.

The Zuytdorp Nature Reserve, and the area proposed as an extension to the Reserve, are noted for unique vegetation, rare flora, and spectacular coastal landscapes. The area, however, is remote and difficult to access. Main Roads WA are assessing the feasibility of a proposal for a coast road between Kalbarri and Shark Bay. The results of this study could have major, long-term implications for future use and management.

Shark Bay is located on the western-most point of Australia, about 750 kilometres north of Perth. The total area of Shark Bay's CALM-managed terrestrial reserves is about 122 000 hectares.

Zuytdorp Cliffs. Photo – Kevin Coate

The area is of major botanical and zoological importance, and contains many threatened species. The study area is at the botanical transition zone between the eucalypt dominated Southwest Botanical Province and the acacia dominated Eremaean Province. As a result, the flora is enriched with the presence of both arid and south western species.

A brief survey of the coastal portion of the Zuytdorp Nature Reserve in August 1995 resulted in 314 species of flowering plants being recorded, including 29 new flora records for the World Heritage area. Several shrub species in the Reserve are present in 'giant' forms. The reasons for the 'gigantism' are not fully understood. A current biological survey of the Carnarvon Basin, of which the Zuytdorp Nature Reserve is a part, represents the first comprehensive study of the Reserve's flora and fauna.

FIELD WORK

Help collect, press and document plants, record vegetation communities, observe birds and make natural history observations at a variety of locations in the Shark Bay World Heritage Area. The expedition will provide much needed biological knowledge of this poorly known area, and the data collected will be used to make recommendations for management of the area.

CONDITIONS

We will travel in an air-conditioned 4WD vehicle. We will spend one night in Kalbarri before travelling on sand tracks to a bush camp near the Zuytdorp Nature Reserve. There will be an opportunity to visit the wreck site, before travelling on to the Old Telegraph Station at Hamelin Pool where we will camp for three nights. Botanical work and bird watching activities will be supplemented by visits to sites associated with Zuytdorp wreck survivors. The last night will be spent at Eurardy Station. Meals and camping gear will be provided, but you will be expected to help with camp chores. Days will be warm but nights may be cool.

RELATED INTERESTS

An interest in bird watching, botany, photography and marine archaeology will be useful.

DEPARTURE POINT

The trip starts and finishes in Perth, Western Australia.

INCLUSIONS

Pre-trip briefing, shared accommodation in Kalbarri, ground transport, camp fees, meals, research equipment and supplies, thermal mug, duffel bag, volunteer hat, written briefing, camping and field gear (except for personal items such as sleeping bags and binoculars), expedition diary and report, reunion.

NOT INCLUDED

Medical treatment or emergency evacuation expenses.
Some refreshments en route.
Alcoholic beverages and other personal expenses.

CONTRIBUTION

POA

2000

Montebellos Magic—Sailing the Pilbara Coast

Montebellos and other islands of the Pilbara Coast, Western Australia. October 21–29, 2000

Kevin Kenneally, Coordinator, *LANDSCOPE Expeditions*
Daphne Edinger, Honorary Research Scientist, CALM
Kevin Coate, Naturalist and Ornithologist
Keith Morris, Group Manager, Biodiversity Conservation Group, CALMScience Division

Join a natural history voyage from Dampier to Exmouth, in a quest for greater understanding of remote islands off the Pilbara coast. The Montebellos are a group of more than 100 islands situated in the Indian Ocean off the north-west coast of Western Australia. They achieved international recognition in 1952 and 1956 when the British detonated atomic bombs on the islands. The islands were a prohibited area until 1992, when they were returned to Western Australia by the Commonwealth Government. The area is now a Conservation Park managed by the Department of Conservation and Land Management.

The flat limestone islands are located 20 kilometres north of Barrow Island and 120 kilometres north-north-west of Dampier, and have been separated from the mainland for more than 8000 years. They were named in 1801 by the French Navigator Nicolas Baudin after the Battle of Monte Bello. The earliest known European use of the islands was in 1622, when survivors of the wreck of the *Tryall* camped on the northern islands before setting forth in a lifeboat for the East Indies. The pearling industry that developed in the late 19th century was probably responsible for the introduction of the cat and the black rat, leading to the extinction of the golden bandicoot and the spectacled hare-wallaby.

Green turtle. Photo – Kevin Coate

In spite of disturbance from atomic testing and feral mammals, the islands and their surrounding waters still support a diverse array of terrestrial and marine fauna. CALM's Montebello Renewal program, part of Western Shield, aims to control feral predators and re-establish native species on the islands. Phase 1 of the program was initiated in 1996 by CALM staff and volunteers, and the work is now well under way. The first translocations of native mammals took place in June 1998, when 30 mala (a central Australian subspecies of the rufous hare-wallaby) were flown to their new home on Trimouille Island. The botanical work to be carried out by this expedition will complement the work of the Montebello Renewal program.

FIELD WORK

Prior to the British atomic explosions of the 1950s, plant specimens were collected for the Royal Botanic Gardens, Kew, England, by F L Hill. A focus of this expedition will be to establish whether these species still occur on the Montebellos and to add to Hill's original list. There will be opportunities for bird watching; natural history observations; monitoring of feral cats; observing boodies, golden bandicoots and marine turtles. Other pursuits may include snorkelling and a visit to the historic remains of Thomas Haynes' 1906 experimental pearl farm on Hermite Island and to Brown's pearl farm. The area is rich in marine life, and at least two species of marine turtle and several species of seabird nest on the islands. Data collected will be made available to the Montebello Renewal Program and will assist CALM in making management recommendations for conservation and recreational purposes.

CONDITIONS

Expedition members will rendezvous at Karratha, where transfers will be arranged from Karratha airport to Dampier. An evening meal will be shared and a night spent in Dampier before departing early the next morning by boat for the Montebello Islands. The weather will be hot at this time of year. Three days will be spent at the Montebellos before sailing south to Exmouth. Visits along the way will be made to the Lowendales, Barrow Island and various islands along the coast. The group will camp ashore for the duration of the voyage. Meals and camping gear will be provided, but you are expected to help with some tasks. Fresh water supplies will be limited. You should be comfortable with the idea of spending a fair amount of time at sea and with camping ashore. The expedition concludes in Exmouth, where the last night will be spent in a motel.

RELATED INTERESTS

Botany, bird watching, snorkelling, small boat handling, photography, historical research, island biogeography.

2000

DEPARTURE POINT

The expedition starts in Dampier and finishes in Exmouth, Western Australia.

INCLUSIONS

Pre-trip briefing, one night's accommodation and meals in Dampier, one night's accommodation and meals in Exmouth, seven days' ocean going transport on a charter vessel, meals, research equipment and supplies, thermal mug, duffel bag, volunteer hat, written briefing, field gear (except for personal items such as sleeping bags and binoculars), expedition diary and report, reunion.

NOT INCLUDED

Travel to departure point.
Medical treatment or emergency evacuation expenses.
Alcoholic beverages and other personal expenses.
Snorkelling equipment and fishing gear.

CONTRIBUTION

POA

Montebello Islands. Photo – Kevin Coate

Join us in the field—LANDSCOPE Expeditions invites you to work alongside us in the cause of conservation

DR JAMES BIGGS is the Government Astronomer for Western Australia and Director of Perth Observatory. Though his PhD concerned radio astronomy, he has wide ranging research experience in optical and x-ray astronomy through his various appointments in Sydney, NSW; Jodrell Bank, University of Manchester and working with the Hubble Space Telescope at NASA's Goddard Space Flight Center.

BOB BROMILOW is a technical officer with CALMScience, Karratha. He has interests in flora and fauna sampling.

DR PER CHRISTENSEN, now a consultant, was formerly a senior principal research scientist with CALMScience Division, Manjimup. He gained degrees in botany and zoology in Kenya before joining the WA Forests Department in 1968. His PhD in WA examined woylies and tammar wallabies in relation to fire. Per pioneered research on the link between native animal decline and introduced foxes. He has worked on forest ecology and management, and desert and arid land ecology.

KEVIN COATE is a well known Western Australian naturalist and ornithologist, who has been involved in natured-based tourism since 1975. He has travelled extensively throughout outback WA and is known for his numerous publications on birds.

DR PETRA DE GOEIJ'S masters degree at the University of Amsterdam focussed on the feeding ecology of spoonbills. From 1991—1997 she was General Secretary of the International Wader Study Group and is its current conference organiser; she has led an expedition to Tunisia studying waders; has spent three months studying the feeding ecology of the Red Knot and Great Knot on the mudflats of Roebuck Bay; and commenced her PhD at the Netherlands Institute for Sea Research (NIOZ) in 1992.

DAPHNE EDINGER, a former science teacher, has worked as an honorary research scientist with CALM since 1982. She has conducted botanical field trips throughout the State and has been with the *LANDSCOPE Expeditions* program as a leader since its inception. She and Kevin Kenneally were awarded the 1996 CSIRO Medal for Research Achievement for the book *Broome and Beyond: Plants and People of the Dampier Peninsula.*

PHIL FULLER is a senior technical officer with CALMScience Division, Woodvale, Perth. He has particular interests in all matters zoological, particularly birds, their ecology, behaviour and distribution.

DR PIETER HONKOOP is an analytical chemist with a masters degree in embryology and animal physiology. He is keenly interested in marine benthic ecology and has worked at the Netherlands Institute for Sea Research (NIOZ) since 1992 on his PhD studying bivalve reproduction.

DR RIC HOW is head of the Department of Terrestrial Vertebrates at the Museum of Natural Science, Western Australia and has over 30 years' research experience in Australia, Indonesia and China. His research on the biogeography and ecology of mammal and reptile communities has spanned the tropical, temperate and desert regions of both Australia and Asia.

GREG KEIGHERY is a principal research scientist in CALMScience Division at Woodvale. He has undertaken botanical surveys throughout Western Australia, most recently between Kalbarri and Carnarvon and currently in the wheatbelt. Greg has written numerous papers and articles on the biology, taxonomy, conservation status and distribution of the native and introduced plants of Western Australia.

DR PETER KENDRICK has worked as CALM's regional ecologist in Karratha since 1989. He received his PhD in evolutionary genetics and community ecology from the Zoology Department, The University of Western Australia. His special interests are in the biological survey of reptiles and mammals, and in arid zone land molluscs.

KEVIN KENNEALLY, a research botanist since 1973, has been the scientific coordinator for *LANDSCOPE Expeditions* since 1994. He is an internationally recognised author, and coordinator of CALM's Science Publications Unit. Kevin has led research expeditions into remote areas of Western Australia for over 25 years. He was awarded a Churchill Fellowship (1979), the Australian Natural History Medallion (1984) and the CSIRO Medal for Research Achievement (1996).

DR MARC LAVALEYE is a marine biologist at the Netherlands Institute for Sea Research (NIOZ), specialising in marine molluscs. A diver, taxonomist and photographer, he has participated in many North Sea research cruises and four major marine expeditions. He has been a taxonomist on the Atlantic Islands for the Netherlands National Natural History Museum, has organised several expeditions on organisms of the Atlantic deep sea for NIOZ, and has worked with marine fauna in Mauretania, Kenya, Indonesia and Australia.

GRAEME LIDDELOW is a senior technical officer with CALMScience Division, Manjimup. He has been involved in both Project Eden and Desert Dreaming since the inception of Western Shield, which aims to rid the state of feral cats and foxes. He has assisted Dr Per Christensen with forest ecology and management for over 20 years and with desert and arid land ecology projects for over 10 years.

BRAD MARYAN is an honorary technical officer with CALM, with special interests in herpetological matters, particularly the collection, identification and photography of reptiles, especially snakes. He is a co-author of the book *Reptiles and Frogs of the Perth Region*, published by The University of Western Australia Press.

KEITH MORRIS is the group manager of CALMScience Division's Biodiversity Conservation Group based at Woodvale where he is responsible for the management of all the nature conservation research projects within CALM. He has expertise with threatened fauna conservation, island fauna, introduced predator and rat control, marine turtles and forest fauna.

CHRIS MULLER has been Regional Manager of CALM's Pilbara Region for the last five years. He has a degree in forestry from Melbourne University and worked for 15 years in the forests and national parks of Victoria before moving to WA in 1981. He has more than 30 years experience in Australian natural land management, including 10 years as a fire specialist in Australia's ecosystems.

GRANT PEARSON is a senior technical officer with a long association with wetland and shorebird research in Western Australia. He is currently the manager of CALM's Wildlife Research Centre at Woodvale. Recently he has jointly led expeditions by CALM, Curtin University and NIOZ to Roebuck Bay and King Sound to determine the nature and distribution of the sediments and invertebrate fauna of the intertidal areas of these wetlands.

DR THEUNIS PIERSMA is a senior scientist at the Netherlands Institute for Sea Research (NIOZ) and Associate Professor at the Centre for Ecological and Evolutionary Studies at the University of Groningen. His disciplinary expertise encompasses animal ecology, estuarine ecology, environmental physiology of birds and ethology. He is vice chairperson of the International Wader Study Group; editor of *Ardea*, an international ornithological journal; and a member of the Estuaries Unit of the British Trust for Ornithology.

DAVID ROBINSON is an honorary technical officer with CALM, with special interests in herpetological matters, particularly the collection, identification and photography of reptiles. He is a co-author of the book *Reptiles and Frogs of the Perth Region*, published by The University of Western Australia Press.

DANNY ROGERS has been a researcher, writer and editor with the Royal Australasian Ornithologists Union since 1988. He has extensive bird-watching and bird-banding experience, and has undertaken ornithological expeditions to the UK, Iran, Afghanistan, Pakistan, Sri Lanka, Siberia, South Korea, Thailand, Peninsular Malaysia, New Zealand and all states in Australia. He is currently working on his PhD at the Johnstone Centre of Charles Sturt University, Albury, NSW.

PETER SPELDEWINDE is a research scientist with CALMScience Division, Woodvale. He is responsible for Project Eden's reintroduced fauna (see page 15) and his interests include endangered species management and mammal ecology, especially native rodents.

DR TONY START is a principal research scientist with CALMScience Division who has recently relocated to Kununurra in the Kimberley. Here he will study riparian communities along the Ord River and fire management issues. A zoologist, he has a special interest in the ecology and biogeography of bats, small mammals and birds, together with a passion for the taxonomy and ecology of mistletoes.

DR STEPHEN VAN LEEUWEN is a botanist-ecologist with CALMScience Division, Karratha. He has 16 years' experience with the flora of North Western Australia, has a keen interest in arid zone ecology and is currently team leader for a biological survey of the southern Little Sandy Desert. His research interests include the relationship of the biota to its surroundings and how Aboriginal people interact with the land and use the biota.

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