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1997

LANDSCAPE 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

1997

LANDSCOPE Expeditions



LANDSCOPE

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

Dear Friends,

Welcome to the 1997 program of LANDSCOPE Expeditions.

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 in important conservation projects and see things that your family, friends and neighbours have never seen and may never see personally. The expedition fees you pay will make the study and research possible. Your enthusiasm, commitment and ideas will make it all happen.

The 1997 expeditions provide you with an opportunity to be part of the largest wildlife conservation project in Australia; to study birds and plants in the little-known rainforests of the Kimberley; to journey to rarely visited areas of the Great Victoria and Gibson Deserts in search of scientific discoveries; to collect plants in a remote area renowned for its spectacular spring wildflowers; to work with the State's leading astronomers in studying the desert skies of the Gibson Desert by night, while working with wildlife scientists monitoring native mammals by day; to make a scientific voyage to one of the most remote locations of the North Kimberley; to discover Aboriginal plant usage in the area between Broome and Cape Leveque; and much, much more.

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, common sense, an enthusiasm to be part of a team, and a sense of humour.

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

Handwritten signature of Ron Kawalilak.

Ron Kawalilak
MANAGING EDITOR, LANDSCOPE

P.S. 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 LANDSCOPE. See the back cover for more details.

DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT
Locked Bag 104, Bentley Delivery Centre, Western Australia, 6983.

C O N T E N T S

1997

EXPEDITIONS

EXPEDITIONS

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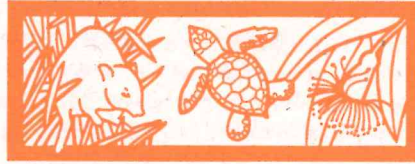




King Cascade, Kimberley coast. Photo - Kevin Kenneally

1997

LANDSCOPE Expeditions



Lend your body to research...

LANDSCOPE Expeditions are non-profit, self-supported study and research projects. Since their inception in 1992, the expeditions have been offered by the 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 learning through a variety of means, including educational travel.

CALM scientists and regional staff identify the research projects and lead the expeditions. UWA administers the expeditions and involves the wider community through its extension program, while 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 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 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

Limited places are available. 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 automatically become 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.

1997

Wildlife and Flora of the Great Victoria Desert

Queen Victoria Desert Nature Reserve, Western Australia. April 5-15

David Pearson, Senior Research Scientist, CALM
Andy Chapman, Regional Ecologist, CALM Kalgoorlie
Andrew Williams, Senior Technical Officer, CALM
Daphne Edinger, Honorary Research Scientist, CALM

The Great Victoria Desert encompasses a vast area which extends from Western Australia and into South Australia in the south of the continent. The reserve contains woodlands typical of the Goldfields region and the sandplains and dunefields of the Great Victoria Desert. Here, desert plants and animals mingle with those of the south-west of the State.

Queen Victoria Spring also has an impressive place in the history of European exploration of Western Australia. Ernest Giles found and named the spring in 1875 and it became an important departure point for numerous expeditions.

Remote and rarely visited, the reserve has exceptional biological values. The wildlife is very rich and includes one of only two known populations of the sandhill dunnart in WA, the mulgara and ten other small mammal species. It is the only known location of the skink *Lerista puncticauda* and is home to around 60 other species of reptile. Wildlife communities in the rest of the reserve are basically unknown and surprising discoveries are likely. There are many rare or poorly collected plants and further botanical surveys are needed. Information collected will help to ensure that the conservation value of the reserve is recognised and that management is focused and effective.

FIELD WORK

Activities will include pitfall trapping for small mammals and reptiles, in a variety of different habitats, and Elliot trapping in rocky areas. You will help to handle, identify and document captured animals, spotlight at night for reptiles and larger mammals, and mist-net for bats. Searches will be made on foot for rare plants, like the herb *Caesia rigidifolia*, known only from a single specimen collected by Giles in 1875 at Queen Victoria Spring. You can also visit the spring and the tree carved by the Elder Scientific Expedition in 1891, learn about the exploration and Aboriginal history of the area and search for relics and signs of early explorers and prospectors.

CONDITIONS

The expedition will travel in a 14-seat, air-conditioned, 4WD Oka. The Queen Victoria Spring Nature Reserve habitats including granite outcrops, lateritic breakaways, a saline fossil river, woodlands, heathlands, dunefields and sandplains. Camp sites will be in mulga woodlands near a huge granite outcrop with access to salt pans, mallee shrublands and breakaways; and at Queen Victoria Spring, under big marble gums, with access to the nearby dunes and sandplain country—home to the biggest grass trees you are ever likely to see. Water will be in limited supply. We will contact CALM's office in Kalgoorlie daily by HF radio. Meals will be provided, but you are expected to help with camp chores. The last night will be spent at a motel in Kalgoorlie.

RELATED INTERESTS

Observation skills and an interest in desert ecology and early explorers. Photography, map reading and bushcraft skills would be helpful. You should be comfortable walking and

camping in primitive desert conditions.

DEPARTURE POINT

Perth, Western Australia.

INCLUSIONS

Ground transportation, meals, camping and field gear (except for personal items such as sleeping bags), research equipment and supplies, expedition information and instructions and meals and shared accommodation at a motel in Kalgoorlie.

NOT INCLUDED

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

CONTRIBUTION

\$1950



Pygmy possum. Photo - Tom Keating

1997

Beyond the Dreaming—Project Eden

Peron Peninsula, Shark Bay World Heritage Area, Western Australia. May 3–11

Dr Per Christensen, Senior Principal Research Scientist

Graeme Liddelow, Senior Technical Officer

Keith Morris, Senior Research Scientist

Science and Information Division, CALM

This is a chance to be part of one of the most exciting wildlife conservation projects anywhere in the world. If successful, Peron Peninsula could become the largest area in Australia in which large numbers of endangered animals roam freely.

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 for the diversity of its land and sea scapes.

The first part of the project, the erection of a 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. Controlling feral cats, the last hurdle to be overcome before reintroducing native species which formerly roamed the peninsula, is well under way.

Already some of the surviving wildlife is beginning to recover. The Shark Bay thick-billed grasswren, a subspecies confined to this area, is becoming more numerous on the Peninsula and spinifex hopping-mice are being caught in greater numbers.

FIELD WORK

Thousands of visitors from all over the world are attracted to this region every year, but few, if any, are privileged enough to engage in the hands-on experiences that this expedition makes possible. You will see and handle native wildlife, participate in radio tracking and engage in many other exciting activities. Project work is currently focused on feral cat control and volunteers will help to trap, radio track, spotlight and track cats on Peron Peninsula. This will provide information on their biology, home ranges and other data that will be valuable for future control. Volunteers will also help researchers trap small native mammals and reptiles using both pitfall and Elliott techniques, and to handle, identify

and record data on captured animals. At night we will go spotlighting for larger mammals and reptiles. If you would like to help collect data through daily bird census counts, please bring your binoculars along. Participants will also help to collect, press and record information about the 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 14 seat 4WD Oka with meals and camping gear provided. The study site is on Peron Peninsula in Shark Bay, 800 km north of Perth. We will be staying at the old Peron Station homestead, 10 km from Denham and 20 km east of Monkey Mia. Meals will be provided, but participants are expected to help with camp chores. Showers and laundry facilities are available as well as the famed 'hot tub' (an artesian bore) at the homestead.

RELATED INTERESTS

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



Ray Smith tracking "Little Cat". Photo – Neil Burrows

DEPARTURE POINT

Perth, Western Australia

INCLUSIONS

Transport, meals, research equipment and supplies, expedition information and shared homestead accommodation. Camping and field gear except for personal items such as sleeping bags and binoculars.

NOT INCLUDED

Some refreshments en route.

Alcoholic beverages and other personal expenses.

Medical treatment or emergency evacuation.

CONTRIBUTION

\$1495

1997

Broome and Beyond—Bush Plants and Wild Foods

Dampier Peninsula, Kimberley region, Western Australia. June 14–22

Kevin Kenneally, Coordinator, LANDSCOPE Expeditions

Daphne Edinger, Honorary Research Scientist, CALM

Kevin Coate, Naturalist

Tim Willing, Conservation Officer at CALM Broome, and Members of the Broome Botanical Society

The Dampier Peninsula, first landfall of William Dampier in 1688, is a gateway to the Kimberley and a source of some of WA's earliest botanical collections. From Broome we will head north to uncover some of the best kept secrets in the Kimberley. Stay at "Nature's Hideaway" at Emeriau Point and see stunning sunsets from the sandstone sea cliffs. Walk the reef at low tide and discover the prolific and colourful marine life. Visit an ancient Aboriginal stone fish trap. Travel on to Cape Leveque and One Arm Point, home of the Bardi people, and visit Cygnet Bay, said to be the landing place of William Dampier.

For the past decade the Broome Botanical Society and CALM have been conducting collaborative research with Aboriginal communities into traditional values and uses of plants on the Dampier Peninsula, in an attempt to bring together the botany of European and Aboriginal cultures. This has resulted in the publication of *Broome and Beyond—Plants and People of the Dampier Peninsula* — a guide to the landscape and conservation values seen from different cultural viewpoints.

FIELD WORK

Volunteers will help to collect plant specimens, examine plant communities and make natural history observations between Broome and Cape Leveque, with particular emphasis on traditional usage of plants by Aboriginals at Middle Lagoon and One Arm Point. Visit patches of sub-coastal rainforest (classified as vine thicket) and work in small groups with the leaders, assisting with plant pressing, bird watching and photography.

CONDITIONS

Transport will be in a 4WD, 14-seat Oka. The research area lies between Broome and Cape Leveque, about 200 kilometres from Broome at the northern tip of the Dampier Peninsula. Day time temperatures should be between 28–35°C and it could be cool at night. The terrain is flat to

undulating pindan—red soil with wattles dominating and some taller eucalypts dotted among them. There are claypans, saline marshes, mangroves, rocky outcrops and small freshwater lakes. You will see outstanding coastal scenery and have time for beachcombing and spectacular reef walking. Apart from the first night at a Broome hotel, we will be bush camping, spending four nights at Middle Lagoon, and three nights at Cape Leveque. En route we will visit James Price Point. Meals and camping gear will be provided

but you are expected to help with camp chores. There are laundry facilities and bush showers at both camping areas.

RELATED INTERESTS

Observation skills and an interest in plants, wildlife and coastal ecology. Photography, map reading and bushcraft skills would be helpful. Participants should be comfortable walking and camping in a bush setting.

DEPARTURE POINT

Broome, Western Australia.

INCLUSIONS

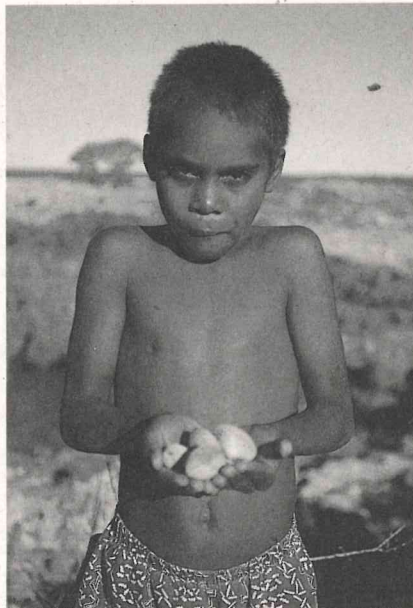
Ground transportation, meals, camping and field gear (except for personal items such as sleeping bags), duffle bag, research equipment and supplies, expedition information and instructions and meals and shared accommodation at a motel in Broome.

NOT INCLUDED

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

CONTRIBUTION

\$1895



Bardi boy with shellfish. Photo – Kevin Kenneally

1997

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

We will then forward a receipt to you and 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!

WHO CAN PARTICIPATE?

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 and qualifications for each expedition undertaken. 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. For any project involving SCUBA diving, a current certification must be held by you.

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 will be refunded.

IF MY PLANS CHANGE, MAY I CANCEL?

Over 60 days from departure, we assure full refunds (less an administrative fee of \$50). Up to 30 days from departure, we will refund 50% of your contribution. After 30 days, however, your 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* have to cancel the expedition, 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. To avoid such penalties, we strongly recommend the purchase of trip cancellation insurance.

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 percent of funds received flow directly back into the study and research projects.

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.

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*.

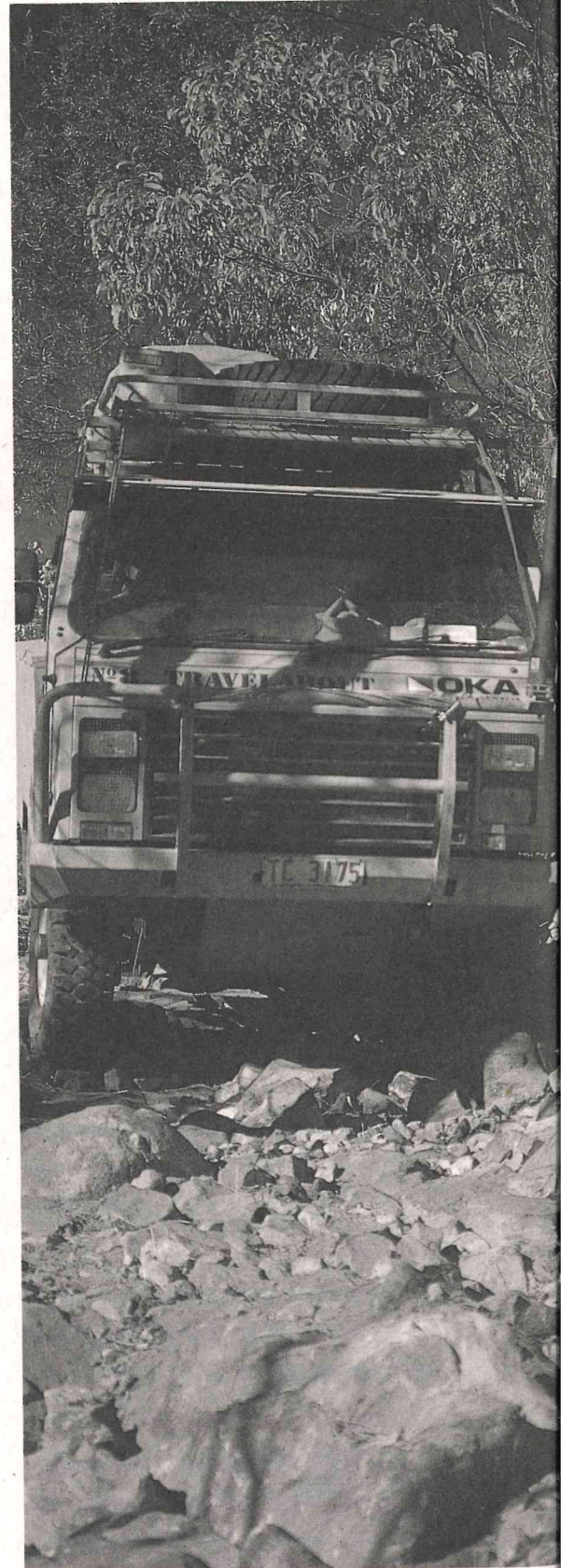
EXPEDITION CONDITIONS

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



On the way to Bachsten Creek, 1996. Photo - Kevin Kenneally

1997

LANDSCOPE Expeditions

APPLICATION

Tell us about yourself...

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

Address.....

..... Postcode.....

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

Preferred name for 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, SCUBA, Hiking, Back packing, 4WD vehicle driving, Surveying, Map reading, Sketching/illustration, Photography/video, Computing/electronics, Vehicle maintenance, Experience with other cultures

ADAPTABILITY

What experiences have you had that reflect your adventurous spirit, adaptability to new situations, and tolerance for close quarters (e.g. wilderness camping, military service, extreme climatic conditions, remote area excursions)?

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?

1997

World of the Wandjina—Natural Wonders of the Kimberley

Broome to Kununurra via Kalumburu, North Kimberley Western Australia. June 27–July 7

Kevin Kenneally, Coordinator, *LANDSCOPE Expeditions*
Gordon Graham, Regional Ecologist, CALM Kununurra
Daphne Edinger, Honorary Research Scientist, CALM
Kevin Coate, Naturalist

The wild and rugged Kimberley region is still a last frontier for new discoveries in natural history. Travel the Gibb River and Kalumburu Roads and help to document the birds and plants of the rainforests, gorges, and rugged sandstone ranges of the far north, an area rich in Aboriginal rock art and culture. Some time will be spent surveying plants and searching for the rare golden bandicoot in the Drysdale River National Park.

Special emphasis will be given to studying the rich herblands in seepage areas along the region's creeks and river systems. The expedition will concentrate on collecting sundews (*Drosera*) and triggerplants (*Stylidium*). Participants will also search for populations of aquatic plants, such as the endemic Kimberley waterlily (*Ondinea purpurea*), in sandstone creeks near Kalumburu.

The rivers and creeks are fringed with dense vegetation and form important biological corridors. An inventory will be made of birds using these habitats, including studies on the purple-crowned wren. These birds are usually restricted to thickets fringing waterways. Their distribution has declined as a result of habitat disturbance by cattle. Searches will also be made for the spectacular Gouldian finch, which has declined dramatically across northern Australia.

FIELD WORK

Participants will collect, press and document plants, record vegetation communities, observe birds and make natural history observations at Silent Grove, Miners Camp Pool, Drysdale River National Park, King Edward River, Pago, Russ Creek, and El Questro. The data collected will be used to describe new species of plants and make recommendations for nature conservation.

CONDITIONS

The expedition will begin in Broome, where the first night will be spent in a hotel, and end in Kununurra. Participants

will have the opportunity to see and experience a broad range of Kimberley scenery and habitats. After leaving Broome we will travel along the Gibb River Road, camping at Silent Grove and Miners Camp Pool on the Drysdale River.

Two days will be spent exploring aquatic and swamp environments on the banks of the spectacular King Edward River, where traditional Aboriginal presence is reflected in rock art galleries featuring ancient Wandjina paintings. We will then travel north through savannah woodlands and

rugged sandstone country to Pago, near Mission Bay on the North Kimberley coast, via the Drysdale River National Park, where there will be an opportunity to either work from a base camp or backpack for two days.

We will travel in a 14-seat air-conditioned 4WD Oka vehicle, mostly on unsealed tracks. There will be a range of activities to suit differing levels of fitness among volunteers. The weather at this time can be warm with temperatures ranging from 14 to 30 degrees Celsius. There will be daily radio communication with CALM's Kununurra office.



Wandjina gallery. Photo - Kevin Kenneally

RELATED INTERESTS

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

DEPARTURE POINT

Broome, Western Australia

INCLUSIONS

Shared motel accommodation in Broome, camp fees, camping and field gear, meals, ground transportation, research equipment and supplies, expedition information and instructions.

NOT INCLUDED

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

CONTRIBUTION

\$2425

1997

In the Wake of the Mermaid—A Kimberley Voyage

Broome to Hunter River, Prince Regent River, King Cascade, Coronation Islands—Kimberley region, Western Australia.
July 13–21

Kevin Kenneally, Coordinator, **LANDSCOPE Expeditions**
Chris Done, Regional Manager, **CALM Kununurra**
Daphne Edinger, Honorary Research Scientist, **CALM**
Kevin Coate, Naturalist

Participate in the adventure of a lifetime—fly to the Mitchell Plateau by plane and then travel by helicopter to the mouth of the Hunter River, one of the most remote locations in the North Kimberley. Here you will join the *MV Sea Lion* to retrace the 19th century voyages of the *Mermaid* and *Bathurst* in an area unchanged by the passage of time. Appreciate the dangers endured by early explorers as they surveyed uncharted waters and documented this *terra Australis incognita*.

The Kimberley coastline offers spectacular landscapes, with a myriad of nearshore islands scattered around its perimeter. Numerous embayments, mangrove forests and river systems with spectacular waterfalls support unique plant and animal assemblages requiring management for conservation. You will also have the unique opportunity to see the famous “Mermaid” boab tree at Careening Bay and anchor alongside King Cascade on the Prince Regent

River. Little published biological information exists for much of this coastline. Much of what we do know about the Kimberley coast is derived from the pioneering work of Lieutenant Phillip Parker King and early botanist Allan Cunningham between 1820 and 1822.

In 1817 the British Government decided it was time to survey the part of the Australian coastline which had not been charted by Matthew Flinders. The task was undertaken by Lieutenant Phillip Parker King, the son of the then Governor of New South Wales. King had been trained by Captain Thomas Hurd, the hydrographer of the Admiralty. The first voyage, on board the 83 ton cutter *Mermaid*, left Sydney on 22 December 1817. The ship's crew included John Septimus Roe, later Surveyor General of

Western Australia, and Allan Cunningham, a well-known botanist and explorer. Cunningham arrived in Australia from England in 1816 and had established an outstanding reputation. His appointment as ship's botanist was on the recommendation of Sir Joseph Banks. Cunningham was to make three voyages (1817–1820) under the command of Phillip Parker King on the *Mermaid* and one (1822) on the *Bathurst*.

The surveys along the Kimberley coast resulted in the first major botanical collections from this previously unknown area. Cunningham's specimens were forwarded to the Royal Botanic Gardens at Kew in England. Many new plants were described from these collections by botanist George Bentham in his epic seven volume work *Flora Australiensis*. King was to chronicle his journeys in a two volume publication entitled *Narrative of a Survey of the intertropical and western coasts of Australia, performed*

between the years 1818–1822 published in 1827. However, Cunningham's diary of these voyages has lain unpublished in the State Archives of New South Wales. The Kimberley voyages of this extremely valuable scientific document have been painstakingly transcribed by Kevin Kenneally and a team of dedicated volunteers. This diary, along with hydrographic maps obtained from the British Admiralty, now enables us to accurately plot Cunningham's plant collecting localities.

This expedition aims to relocate and visit Cunningham localities and recollect plant specimens obtained from these sites. Information obtained will be used to develop monitoring strategies for conservation management of the Kimberley coastline.



MV Sea Lion, Naturalist Island. Photo – Kevin Kenneally

FIELD WORK

Volunteers will help to collect, press and record flora, identify Cunningham's collecting localities, establish photographic benchmarks to monitor disturbance, undertake bird watching and record general natural history observations. The vegetation is expected to be at its best for plant collecting in July.

CONDITIONS

The expedition will be conducted from the *Sea Lion*, a spacious 22.62 metre (74 feet) ocean-going motor vessel built for Kimberley conditions and capable of 18.5 knots. A crew of three will operate the vessel. You should be comfortable with the idea of spending a fair amount of time at sea and with camping ashore. Shore access will be via an outboard powered Zodiac tender.

RELATED INTERESTS

Botany, bird watching, sailing and small boat handling, photography, historical research, coastal and island biogeography.

DEPARTURE POINT

The expedition commences in Broome, Western Australia from where you will be flown by charter plane to the Mitchell Plateau. You will be transferred by helicopter to join the research vessel in Prince Frederick Harbour, where the voyage starts and finishes. At the end of the voyage volunteers will be helicoptered to the Mitchell Plateau, then flown to Broome by fixed wing aircraft.

INCLUSIONS

Ocean going transport on the research vessel, camping and field gear (except for personal items such as sleeping bags), meals, duffel bag, research equipment and supplies, expedition information and instructions, helicopter and plane flights from Naturalist Island to Broome.

NOT INCLUDED

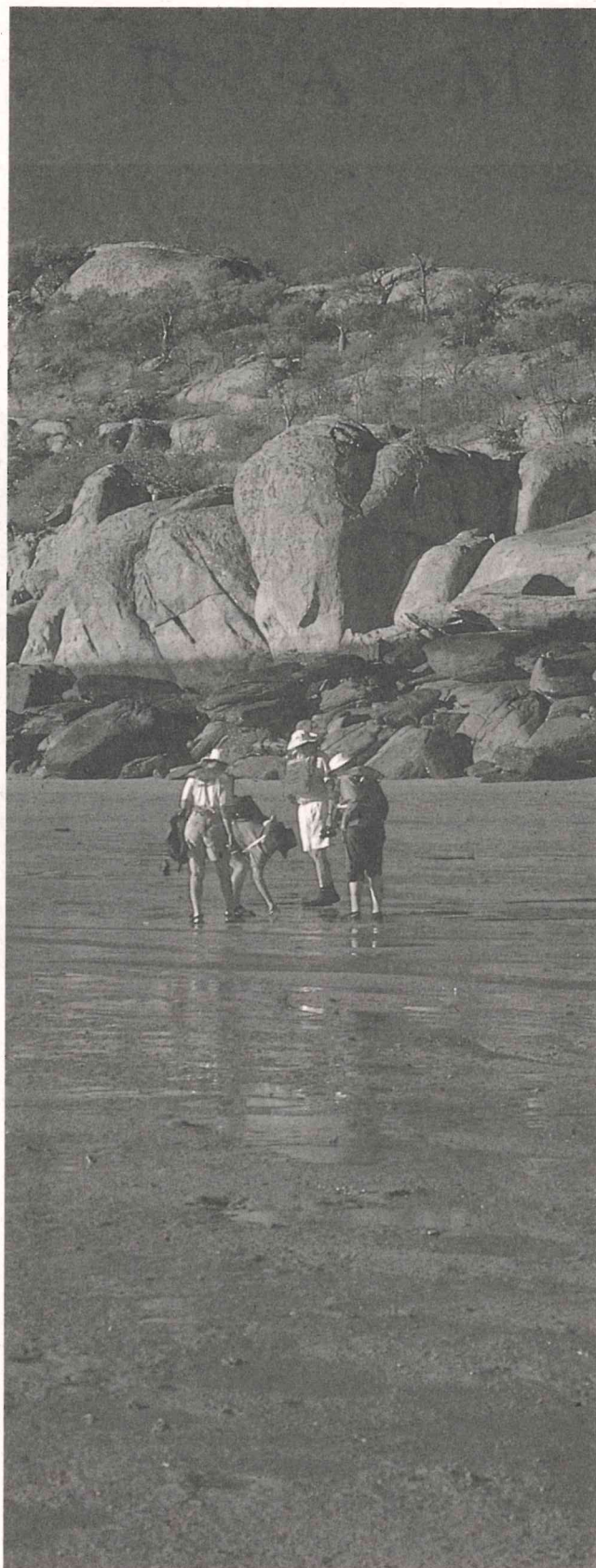
Medical treatment or emergency evacuation expenses.

Travel to departure point.

Alcoholic beverages and other personal expenses.

CONTRIBUTION

\$3795



Wading ashore to explore Cone Bay, Kimberley. Photo – Kevin Kenneally

1997

Wildflowers and Rare Plants of the Murchison

Burnerbinmah Station, Shire of Yalgoo, Western Australia. August 16–24.

Sue Patrick, Senior Research Scientist, CALM
Steve Toole, Operations Officer, CALM Mid-West
Daphne Edinger, Honorary Research Scientist, CALM

That elusive prize—a plant that has never been collected before—is a very real possibility on this expedition to a region renowned for the profusion and variety of its spectacular spring wildflowers. Visit Burnerbinmah Station, north-west of Paynes Find in the Murchison region of Western Australia, and help to extend a survey started in September 1996. Carried out as part of the Wildlife Management Program for Declared Rare and Poorly Known Species in need of special protection in the Geraldton District, it has identified many poorly known plant species in the pastoral region, most of which are not known from conservation reserves.

Burnerbinmah Station covers about 59 908 ha in the Shire of Yalgoo, at the headwaters of the Lake Monger wetland complex, approximately 270 km due east of Geraldton, about 90 km south-west of Mt Magnet and about 60 km north-west of Paynes Find. Its vegetation is mainly representative of the arid zone flora, but it is close to the eastern limit of the South-Western Botanical Province, which may result in some unexpected finds. The pastoral lease has been grazed since 1884, having been taken up from 1878. In 1995, the lease was transferred to CALM. Landforms include breakaways, granite hills and exposures, salt lakes and calcareous plain. One gorge has permanent freshwater and there is some spinifex sandplain. Broad vegetation types include low mulga woodlands, acacia shrublands on shallow soils associated with granite exposures, open mulga with bluebush and saltbush, as well as bluebush, saltbush and samphire shrublands associated with the salt lakes. There is thus a good range of vegetation types which are in relatively good condition. There are no other CALM-managed areas or conservation reserves in the Murchison region or Austin Botanical District. Range extensions and new populations of Priority species have been found, and it is hoped that the 1997 expedition will produce similar successful results.

FIELD WORK

This survey aims to find, record and survey populations of rare and poorly-known species on the pastoral lease. Thorough sampling of the plants has been started by establishing quadrats in various plant communities. We will recollect in existing quadrats and establish others in areas inaccessible in 1996, owing to the particularly wet season. Volunteers will also help to pit trap for small mammals and reptiles and to help identify them.

CONDITIONS

We will travel from Perth to Burnerbinmah Station in a 14-seat air-conditioned 4WD Oka vehicle. The former shearers' quarters, where there are showers and toilets, will be used as a base. Meals and camping gear will be provided, but you are expected to help with camp chores. The temperatures average between 10°C and 30°C but could be higher during the day. The nights may be quite cold. The terrain is not generally rugged, though there are some breakaways and granite exposures.

RELATED INTERESTS

An interest in botany, photography, wildlife conservation and bush camping will be useful.

DEPARTURE POINT

Perth, Western Australia

INCLUSIONS

Ground transportation, meals, camping and field gear (except for personal items such as sleeping bags), research equipment and supplies, expedition information and instructions.

NOT INCLUDED

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

CONTRIBUTION

\$1375



Everlastings at Burnerbinmah. Photo – Daphne Edinger

1997

Buckshot and Breakaways— Plants and Animals of the Gibson Desert

Gibson Desert Nature Reserve, Western Australia. August 27–September 7

Dr Per Christensen, Senior Principal Research Scientist
Graeme Liddelow, Senior Technical Officer
Science and Information Division, CALM

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 of different and unique animals. Explore the buckshot and breakaways, mulga and spinifex and plants and animals 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.

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, identified and processed.

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, clay pans, 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 a 14-seat 4WD Oka. We will camp en route at Wanjarri Nature Reserve (an old pastoral station near Wiluna now managed by CALM), and will stay for one night at remote Carnegie Station. Once in the desert, eight nights will be spent camping under the stars. Meals and swags are provided, but you will be expected to help with camp

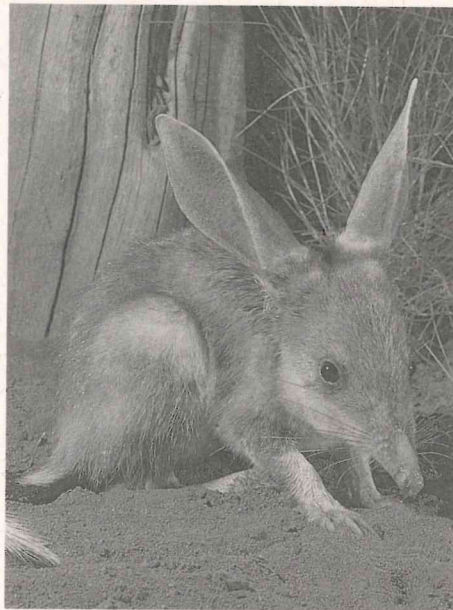
chores. Bush showers and laundry facilities are available at the main camp but it is planned to spend one night at Alexander Springs and another south of Mount Worsnop where there are no facilities. Expect warm days and cold nights. The final night will be spent in Kalgoorlie.

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 camping in primitive desert conditions.

DEPARTURE POINT

Perth, Western Australia



Bilby. Photo—Babs and Bert Wells/CALM

INCLUSIONS

Ground transportation, meals, camping and field gear (except for personal items such as sleeping bags), research equipment and supplies, expedition information and instructions, and meals and shared accommodation at Carnegie Station and a motel in Kalgoorlie.

NOT INCLUDED

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

CONTRIBUTION

\$1975

1997

Colour of the Kimberley—Art from Nature

Kimberley Coast. September 14–21

Philippa Nikulinsky, Botanical Artist

Patricia Dundas, Botanical Artist

Kevin Kenneally, Coordinator, LANDSCOPE Expeditions

Daphne Edinger, Honorary Research Scientist, CALM

People travel from all over the world to view Australia's spectacular wildflowers. Australia's floral bounty was first brought to people's attention through the paintings of early botanical artists such as Ferdinand Bauer. One of the greatest botanical artists of all times, he undertook one of the most significant voyages ever made—with Matthew Flinders on his circumnavigation of Australia (1801–1803) on board the *Investigator*. His paintings and drawings are treasured in museums and libraries in Oxford, Vienna and London. This intimate relationship between exploration and illustration has created a stream of great botanical books, enriched with exquisite pictures of newly-discovered exotic plants.

Be part of the tradition of botanical illustration as it continues into the twentieth century and beyond. Join some of Australia's premier botanical artists on a voyage to one of the most spectacular coastlines in Australia. Observe and learn from them as they explore and paint the natural history of the Kimberley, with the eventual aim of producing an exhibition of their works which will become part of Australia's artistic and scientific heritage.

Plant illustration ranges from the purely botanical to the purely artistic. Between these two extremes lie a vast body of drawings and paintings with combined scientific and aesthetic appeal—botanical records which are works of art.

Pat Dundas and Philippa Nikulinsky are members of WA's Botanical Artists Group, which came together as a result of the "Wildflowers in Art" exhibition at the Art Gallery of Western Australia in 1991. Its members all share the same affinity with the Australian bushland, striving to record its unique flora with botanical accuracy, often working with botanists. Each has had individual exhibitions and work published in the form of books, cards, posters, etc.

Philippa Nikulinsky's art is well known from the cover illustrations commissioned by *LANDSCOPE* magazine as well as for her wildflower diaries, posters and ceramic giftware. Pat

Dundas illustrated "Bushland Plants of Kings Park" and is currently working on "An Illustrated Guide to Orchids in WA".

FIELD WORK

Volunteers will help to collect botanical and other natural material and record them through art. There will be opportunities to press and document flora, to participate in bird watching and to make natural history observations.

CONDITIONS

The expedition will be conducted from the *Sea Lion*, a spacious 22.62 metre (74 feet) ocean-going motor vessel built for Kimberley conditions and capable of 18.5 knots. A crew of three will operate the vessel. You should be comfortable with the idea of spending a fair amount of time at sea and with camping ashore. An outboard-powered Zodiac tender will be used to ferry expeditioners to shore.

RELATED INTERESTS

Botanical illustration, landscape painting, botany, bird watching, sailing and small boat handling, photography, historical research, coastal and island biogeography.

DEPARTURE POINT

The expedition starts and finishes in Broome, Western Australia.

INCLUSIONS

Fixed wing aircraft transfers from Broome to Mitchell Plateau, helicopter transfers from Mitchell Plateau to Hunter River, ocean-going transport from Hunter River to Broome, camping and field gear (except for personal items such as sleeping bags), meals, hat and duffel bag, research equipment and supplies, expedition information and instructions.

NOT INCLUDED

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

CONTRIBUTION

\$3595



Pittosporum molluccanum. Illustration by Philippa Nikulinsky

1997

Under Desert Skies

Gibson Desert, Western Australia September 19–28

Dr James Biggs, Government Astronomer, Perth Observatory, CALM

Tom Smith, Astronomical Assistant, Perth Observatory, CALM

Graeme Liddelow, Senior Technical Officer, Science and Information Division, CALM

Nothing is so stunning as the majesty of the night sky, seen far from human habitation in the remote deserts of Australia.

Come with us to the Gibson Desert and explore the sky with astronomers from the Perth Observatory. They will lead you on a guided tour of the night sky, explain the constellation boundaries and inform you about the latest astronomical theories on many objects visible through their portable 11", 10" and 8" telescopes. Learn the techniques of astrophotography: connect your camera to the telescope eyepiece, or piggy-back it on the telescope tube for a panoramic shot. As well as the nocturnal activities, you will be able to explore the buckshot and breakaways, mulga and spinifex and plants and animals of the Gibson Desert, under the guidance of researchers who have worked in the arid zone for many years.

A special feature of this expedition is a 75th anniversary visit to Surveyor General's Corner at the boundary of WA, SA and NT. The boundary is significant as, when determining it, astronomers implemented a new technology to obtain accurate time, using radio signals. Also, here you will discover one of Australia's best kept secrets!

FIELD WORK

Volunteers will help to count the meteors in the Orionid shower, search for comets, study the craters and features on the moon; the gas giant planet Jupiter and its moons; the planets Venus and Mars; clusters of stars, gaseous nebulae; the nearby galaxies—the Large and Small Magellanic Clouds; distant galaxies and Messier objects (various objects catalogued 200 years ago by Mon. Messier). In daylight hours, you may assist with animal monitoring activities such as observing, tracking, trapping, and bird watching. You may also assist with research being carried out on the bilby. Little is known of the habits of this delightful desert animal.

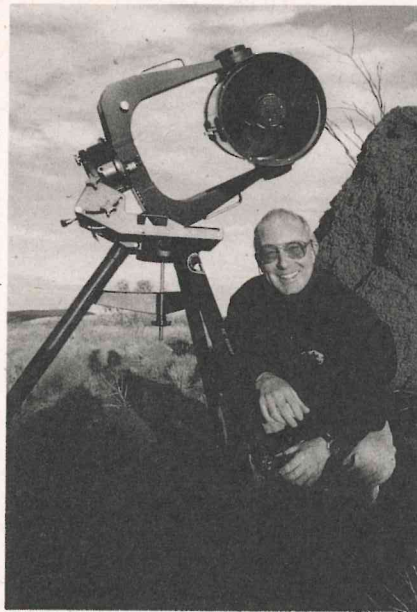
CONDITIONS

We will travel via Kalgoorlie and Warburton on a 14-seat 4WD Oka en route to the state boundaries, and will then make our way to Eagle Camp in the Gibson Desert via the Gunbarrel Highway. The area features vast, undulating spinifex plains, interspersed with mulga. In places there are salt lakes, clay pans, temporary freshwater lakes, spinifex covered sand-dunes and low rocky ranges with occasional breakaways. Most nights will be spent camping under the stars. Meals and swags

are provided, but you will be expected to help with camp chores. Bush showers and laundry facilities are available at the main camp, but on the way home it is planned to camp at Alexander Springs and south of Mount Worsnop where there are no facilities. Expect warm days and cold nights. The final night will be spent at a motel in Kalgoorlie.

RELATED INTERESTS

Observation skills and an interest in star gazing. An interest in wildlife ecology, photography, map reading and bushcraft skills would be helpful. You should be comfortable walking and camping in primitive desert conditions.



Tom Smith with telescope. Photo – West Australian Newspaper

DEPARTURE POINT

Perth, Western Australia

INCLUSIONS

Ground transportation, meals, camping and field gear (except for personal items such as sleeping bags), research equipment and supplies, expedition information and instructions, and meals and shared accommodation at a motel in Kalgoorlie.

NOT INCLUDED

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

CONTRIBUTION

\$1975



LANDSCOPE Expeditions

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YOUR AGENT

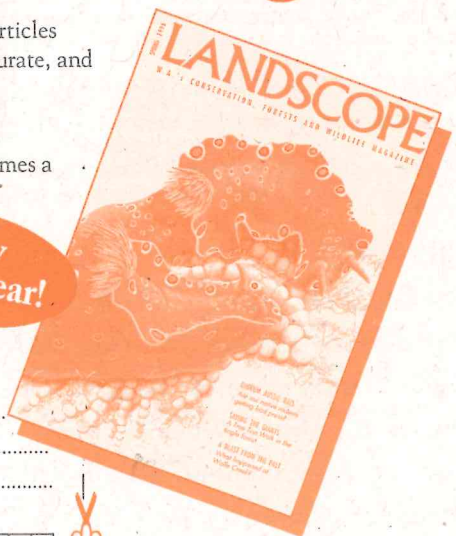
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