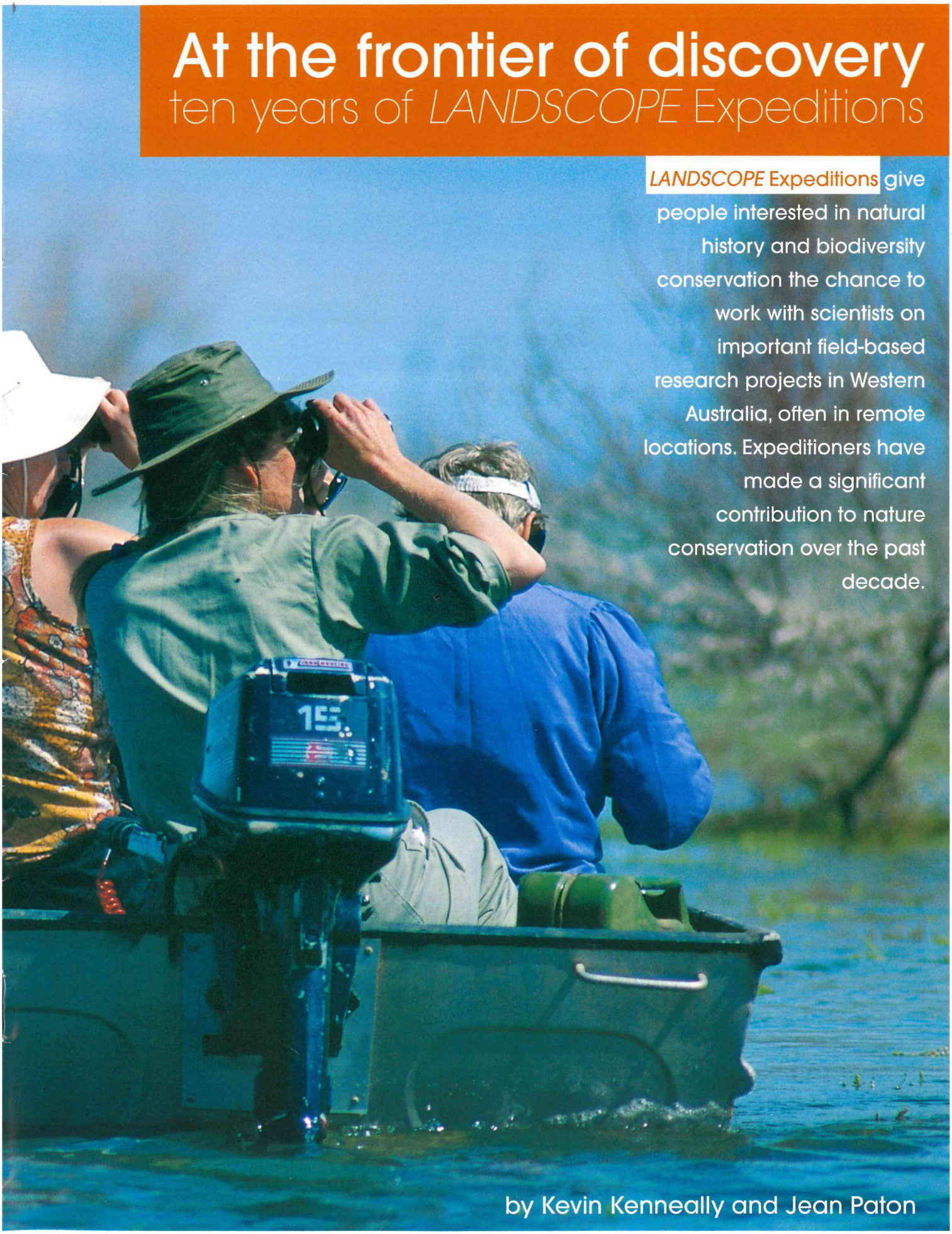
# At the frontier of discovery
## ten years of *LANDSCOPE* Expeditions



*LANDSCOPE* Expeditions give people interested in natural history and biodiversity conservation the chance to work with scientists on important field-based research projects in Western Australia, often in remote locations. Expeditioners have made a significant contribution to nature conservation over the past decade.

by Kevin Kenneally and Jean Paton

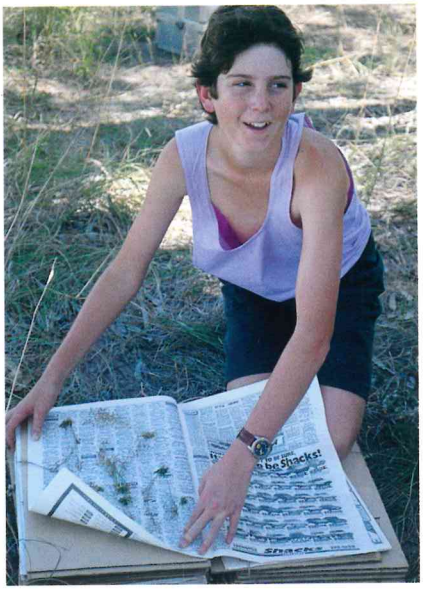
Between September 1992 and December 2001, participants in 49 expeditions collected information from destinations all over Western Australia, from Kimberley rainforests to desert heartlands and offshore islands.

*LANDSCOPE* Expeditions evolved in the early 1990s as an innovative and creative response to community demand for opportunities to do 'real' biodiversity conservation work with scientists. The program was developed by the Department of Conservation and Land Management, together with UWA Extension, at The University of Western Australia. A major attraction of the expeditions has been the rich learning experiences they provide.

## ANSWERING A NEED

In the decade since their inception, these non-profit, self-supported study and research projects have given people interested in nature conservation the chance to work alongside scientists on projects of their choice, knowing that the work they do would benefit the environment, as well as present and future generations. Much research simply would not be possible without the support of *LANDSCOPE* volunteers.

Most expeditions take place in remote parts of Western Australia—areas where research is expensive to conduct and where the volunteers' financial and labour contributions allow scientists to stretch scarce research dollars. Volunteers benefit by visiting remote and unusual destinations and experiencing close encounters with wildlife.



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Surveying waterbirds during the 1993 Lake Gregory Expedition.
Photo – Tom Keating

*Left:* Tony Raudino pressing plant specimens during the 1993 Mitchell Plateau Expedition. Tony now works for the department as a forest ranger.
Photo – Kevin Kenneally

*Below left:* Spinifex and termite mounds in the Gibson Desert Nature Reserve.
Photo – Graeme Liddelow

Western Australia covers almost a third of the Australian continent, stretching from the tropical Kimberley to the temperate south coast. The coastline alone is nearly 13,000 kilometres long. Of Australia's 85 recognised natural biogeographic regions, 26 occur in Western Australia—more than in any other State. The conservation reserve system should ideally protect representative samples of the flora and fauna from each bioregion. *LANDSCOPE* Expeditions have helped identify which areas should be included in the reserve system in order to protect and enhance the State's biodiversity.

## WHEN A BUTTERFLY FLAPS ITS WINGS...

Any tourism, including ecotourism, causes impact. Meteorologist Edward Lorenz pointed out in the 1960s that just a small change in the initial conditions could drastically change the long-term behaviour of a system. This phenomenon is commonly known as 'the butterfly effect'. Ecotourism should be based on sustainability, and its aim should be to limit any negative impact. However, impact can, to some extent, be balanced by the collective knowledge gained from the experience. Over the past decade, the main aim of *LANDSCOPE* Expeditions has been to gather much needed knowledge on Western Australia's biodiversity. This knowledge can be used to preserve the fragile balance between natural ecosystems and competing forces.

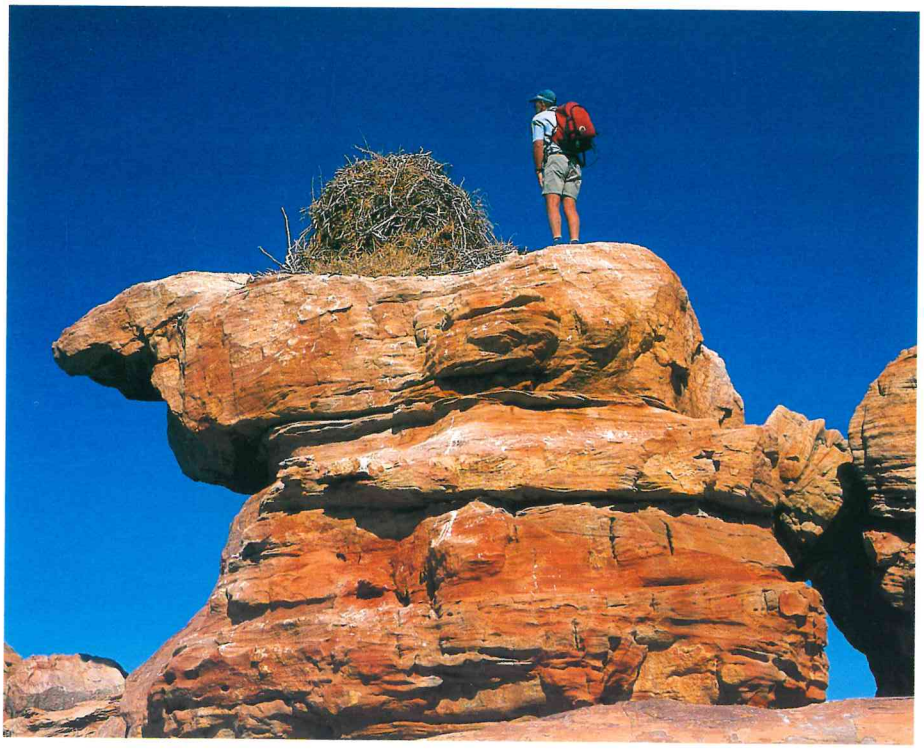
The State's extensive land and seascapes provide a magnificent natural setting for a vast array of plant and animal species. However, in order to effectively manage such diversity, and protect it from negative impacts, scientists have a formidable hurdle to overcome—finding out what occurs where. A major emphasis of the scientific research undertaken by the expeditions program is directed towards answering this intriguing and pivotal question—with the help of volunteers. Involving community members promotes wider cooperation in addressing conservation and land

management challenges in Western Australia. Volunteers are a vital part of this balancing act, funding research and helping scientists get to grips with questions before lasting harm is done.

In a team atmosphere, volunteers on *LANDSCOPE* Expeditions working alongside scientists also gain a broader understanding of the natural world, the role of scientific methods and the value of nature conservation. In the field, day-to-day experiences are backed up each evening with fireside summaries and briefings on the following day's activities. In this way, day-to-day work is related to the bigger research picture.

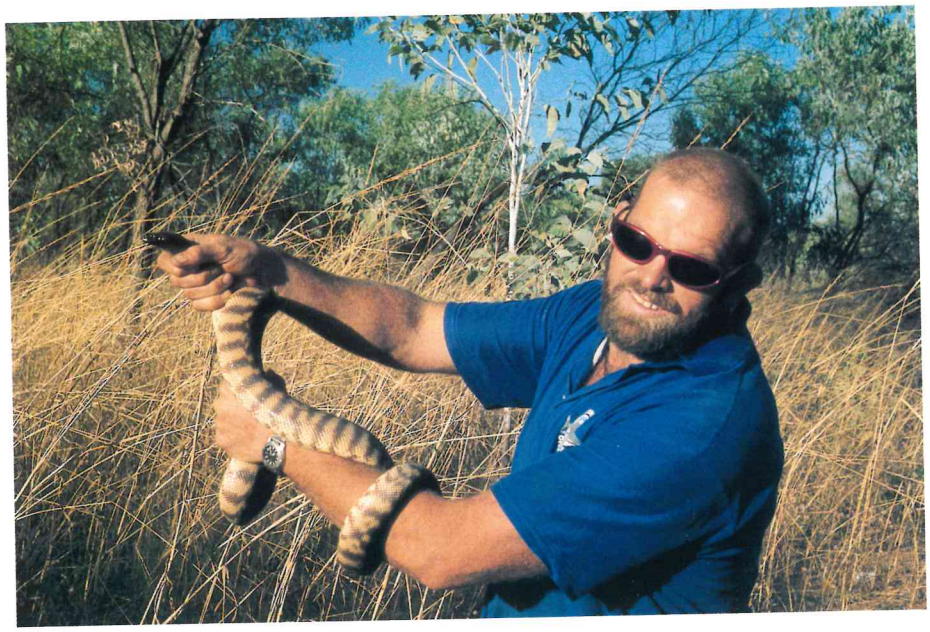
Expedition achievements have included collecting plants new to science; investigating the impact of fire and feral animals on native plants and animals; contributing to recovery programs for threatened species; making recommendations for conservation reserves; and conducting much-needed biological surveys of little-known or threatened habitats. The information collected flows on to the wider community by way of field guides, bush books, reports and scientific papers.

The expedition program has contributed to Western Shield, a major long-term native fauna recovery program. *LANDSCOPE* volunteers have also assisted with 'Desert Dreaming' in the Gibson Desert and 'Project Eden' at Shark Bay. Both projects are investigating the interaction of animals in their natural environment and predation by introduced animals such as cats and foxes. The volunteers have helped to release and monitor animals such as woylies (*Bettongia penicillata*), malleefowl (*Leipoa ocellata*), bilbies (*Macrotis lagotis*), banded hare-wallabies (*Lagostrophus fasciatus*) and mala (*Lagorchestes hirsutus*).



*Above:* Base camp for the 1994 turtle tagging expedition to Cape Domett in the north Kimberley.
Photo – Tom Keating

*Right:* Kevin Coate inspecting an osprey's nest.
Photo – Kevin Kenneally



Kevin and Malcolm get down to it!

Around 3.30 pm our trips concluded at the carpark at W.A.C.A. Extension where all our paraphernalia was unloaded, farewells expressed, promises to write etc and meet at our reunion. And so ended a wonderful trip.

Most importantly, the expeditions program has allowed biological surveys to be carried out in remote areas where little or no previous work has been conducted. Each survey provides a baseline against which further research can be compared. Biological surveys enable scientists to monitor changes in animal populations or flowering patterns. They are windows on nature that reveal biological processes taking place in an area at a particular time. For example, an expedition to the Mitchell Plateau revealed that feral cattle and repeated burning were having the dramatic effect of reducing rainforest patch size. Patches of rainforest have since been fenced to exclude cattle, and protective burning of surrounding woodland is being trialed. A *LANDSCOPE* Expedition to the plateau this year will continue to gather information crucial to conserving the ecological integrity of these threatened rainforest communities.

The collection of biological material on expeditions allows researchers to apply new molecular techniques, thus enabling a clearer understanding of species boundaries. The expeditions program has provided biological material to both Australian and international scientists. The importance of such material was demonstrated by a tissue sample collected from a pebble mound mouse on a *LANDSCOPE* Expedition to the Tanami Desert. Research showed that this population was genetically distinct and may represent a new species of this delicate mound-building rodent.

## THE CHANGING FACE OF TOURISM

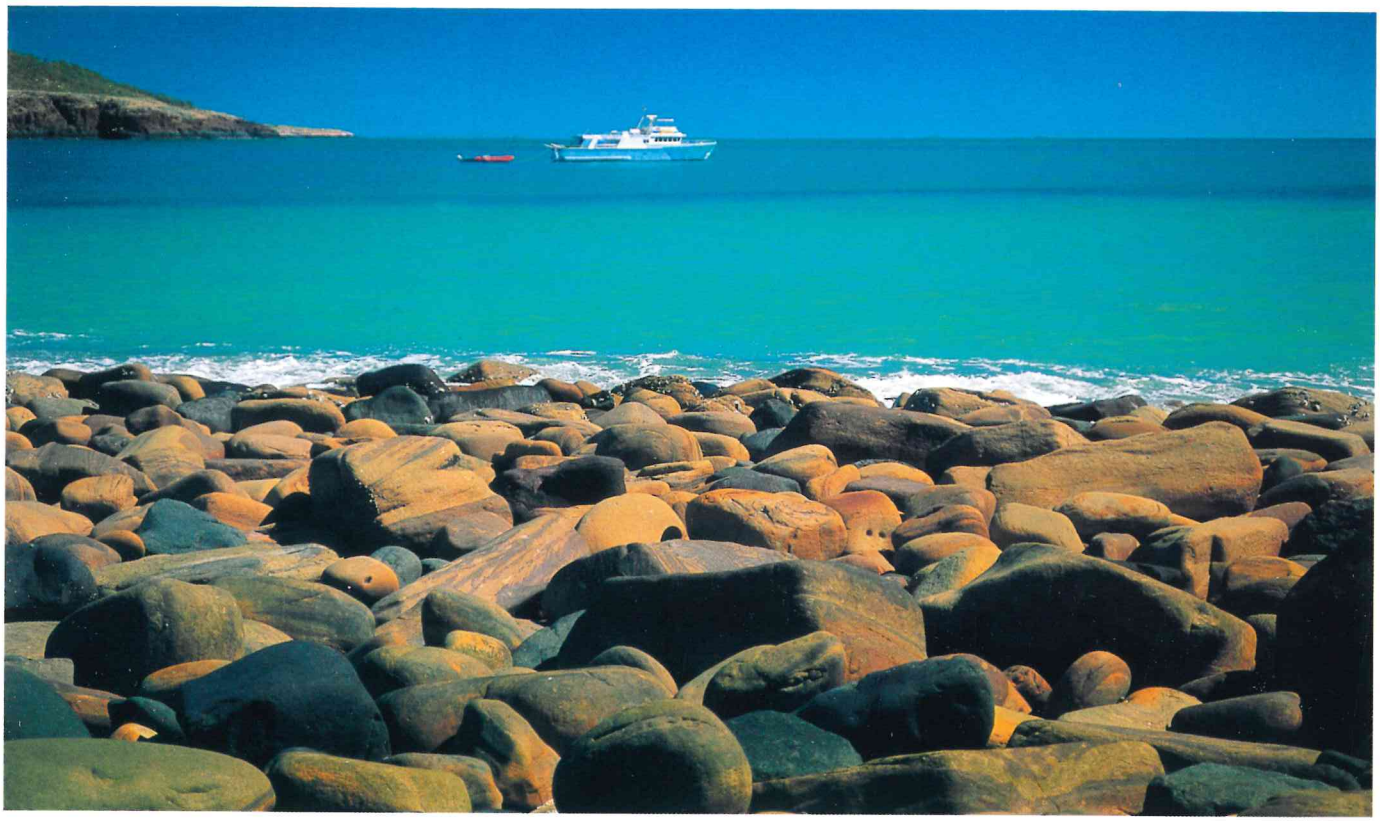
Increasingly, people have different expectations about what they want from the tourism experience. Those who offer nature-based tourism are designing tours accordingly, in response to the demand for small-scale, specialist, sustainable tourism experiences. *LANDSCOPE* Expeditions cater for a niche market—people interested in the preservation, encouragement and promotion of biodiversity conservation. A sense of community lies at the heart of the expeditions program.

*Above:* Artwork by Margaret Leavesley from her visual diary during the 'Awash with Colour' expedition in 2000.

*Top left:* A black-headed python rescued from the Gibb River Road.

*Above left:* Flowers and pods of the tropical matchbox bean (*Mucuna gigantea*) collected in 1995 from coastal swamps in the Kimberley.
Photos – Kevin Kenneally

*Left:* Stephen van Leeuwen and volunteer Val Talbot cataloguing plant specimens on the 2000 Nullagine River expedition.
Photo – Peter Kendrick



The sense of community is fostered through involvement before and after each expedition. Each person is provided with a clear idea of what to expect from the detailed brochure and a comprehensive written briefing package. When it's all over, participants receive a copy of the trip diary and the expedition report, which highlights the research outcomes. In this way, anticipation and recollection become important aspects of the total experience. An annual reunion allows volunteers to socialise and share their special experiences.

Those who seek out *LANDSCOPE* Expeditions are typically active, intellectually curious, and socially and ecologically aware. They are looking for depth of experience, not just covering territory and collecting notches on the suitcase handle. In fact, some expeditioners go back to the same destination over and over again. They care deeply about that particular place and the plants and animals that live there.

*Above:* Bat Island on the Kimberley coast, with the expedition research vessel in the distance.

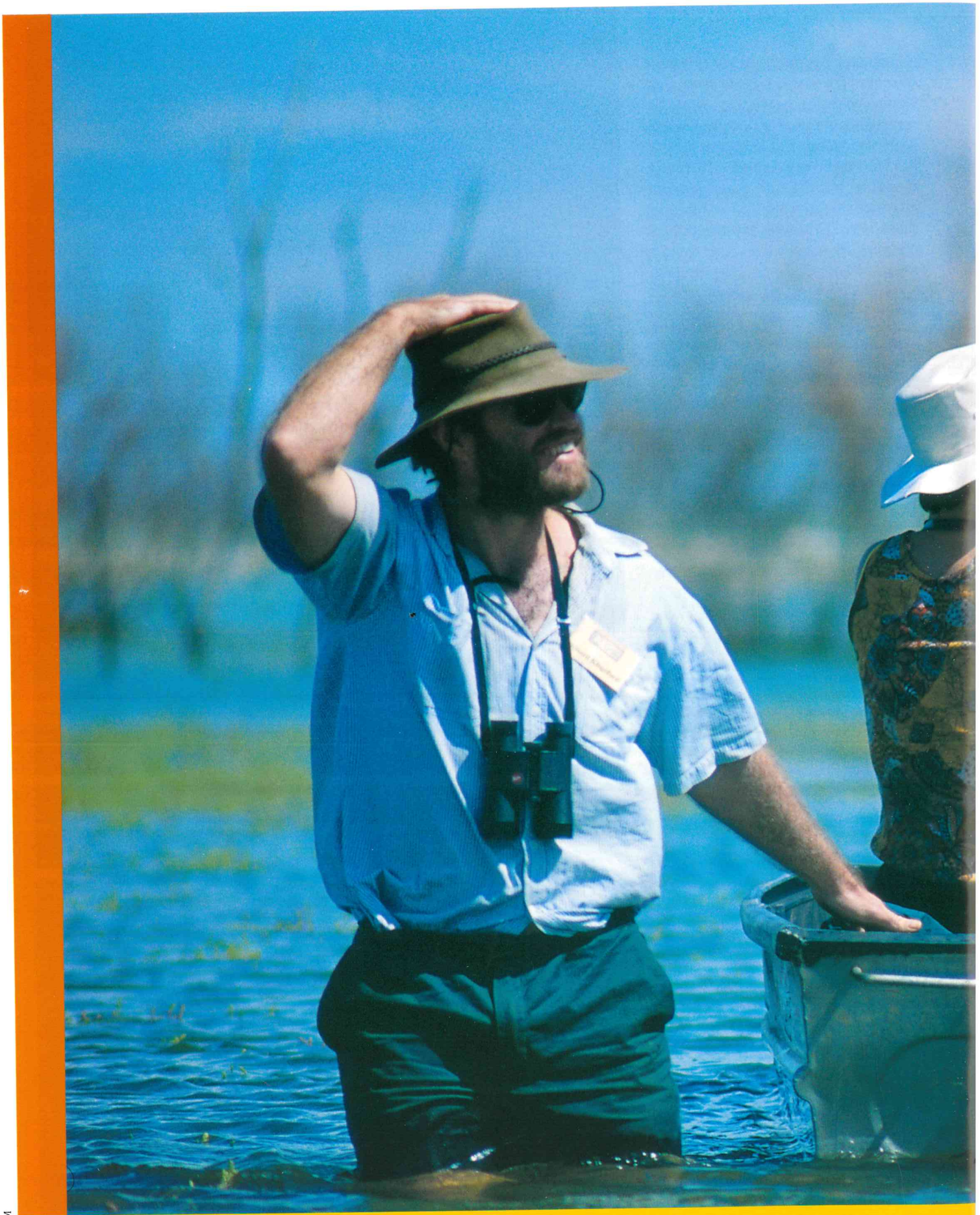
*Right:* On a reef at One Arm Point in the Kimberley, observing traditional food gathering with members of the Bardi Aboriginal Community.
Photos – Kevin Kenneally

The expeditions program works closely with departmental regional offices and with local communities. For example, collaboration with Kimberley, Pilbara and desert Aboriginal communities provides valuable links between traditional knowledge and contemporary scientific methods. This type of collaboration is contributing to the development of cooperative strategies in natural resource management.

## SUCCESS STORIES

In the decade since the expeditions began, some young people who participated in early expeditions now have careers in nature conservation.

Kellie Agar was a volunteer on the 1995 Gibson Desert expedition while a biology student at Curtin University. Kellie went on to graduate with an honours degree in biology, and then completed the Department of Conservation and Land Management's graduate program. In 2000, she was awarded the department's Seamus Mulholland postgraduate scholarship, which enabled her to complete a Graduate Diploma of Business Management at Edith Cowan University.



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