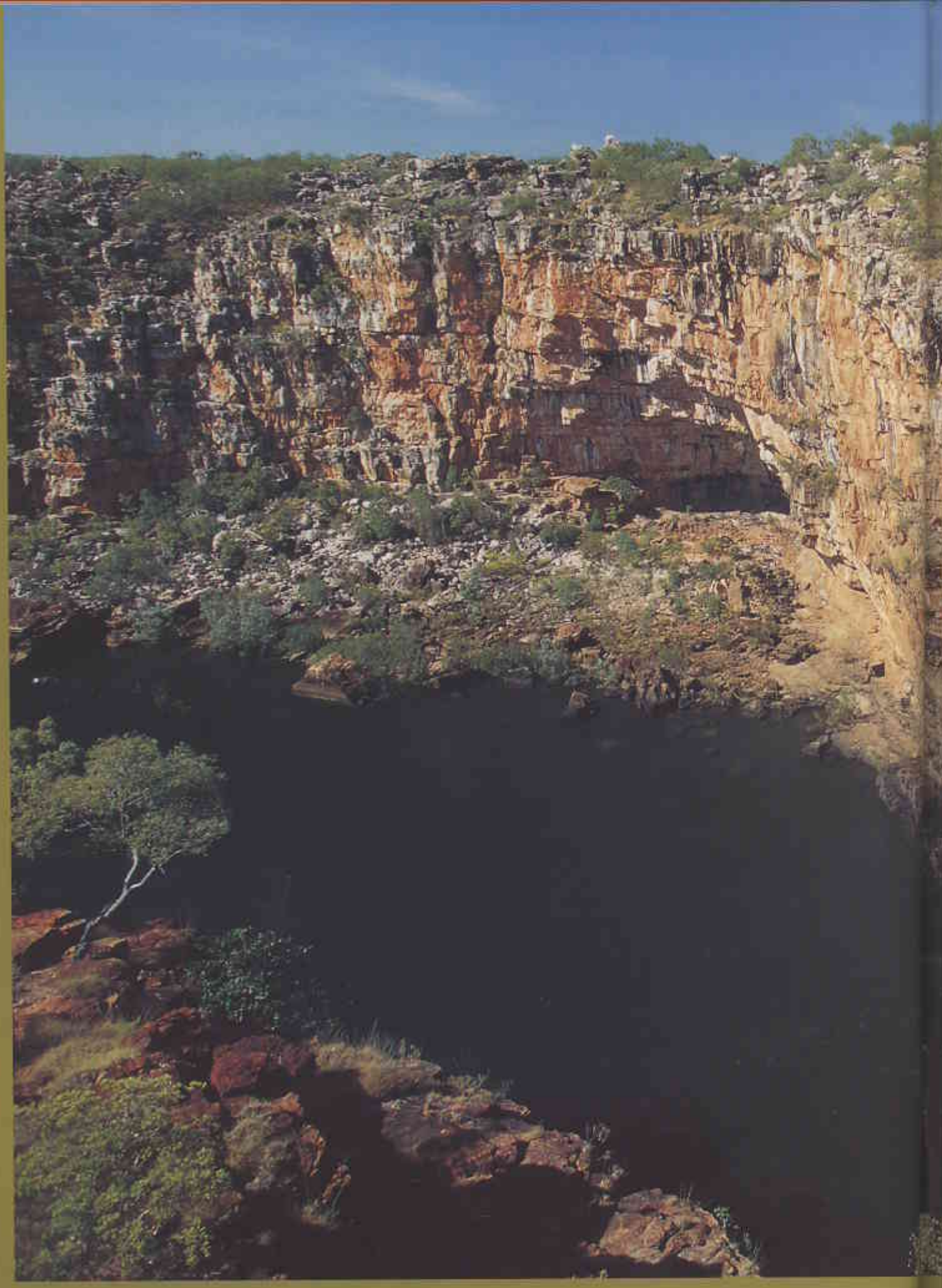

Parks of the Plateau

Four new conservation reserves in and around the Mitchell Plateau give greater protection to this scenic, biologically important and remote part of the Kimberley.

by Chris Done

The Kimberley Plateau is a vast area of more than 100,000 square kilometres of comparatively flat, high country in the extreme north Kimberley. The flatness, however, can only be appreciated from a distance. Up close, the area is extremely rugged, with tablelands and mesas rising to nearly 800 metres above sea level in the central part and dipping gently towards the sea in the north and west. Steep escarpments up to 300 metres high and deep gorges carved over eons by large rivers dominate landscapes on a local scale.

The rocks here were formed when large braided river systems deposited sediments (some of them in a shallow marine environment) in the Kimberley Basin, forming thick beds of sandstone interlayered with beds of conglomerate, mudstone, shale and dolerite (a magnesium-rich form of limestone). Some of these sedimentary beds are in formations up to 5,000 metres thick and are nearly two billion years old. The source of the incredible quantity of sediments that make up these beds was a huge range of mountains (similar to today's Andes) on the southern margin of the Kimberley. At the time, the Kimberley was not part of Australia, but attached to another continent to the north.

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The Mitchell Falls cascade over four main steps into a deep pool.
Photo – Steve Sadler

Left: The waterlily (*Nymphaea violacea*) is common in billabongs and swamps on the plateau.
Photo – Kevin Kenneally/CALM

Below: An outcrop of light-coloured sandstone contrasts with the lush wet season growth in the Mitchell River National Park.
Photo – Pamella Butt

Astonishingly, the sedimentary beds are still horizontal and easily recognised over much of the area, despite the massive forces that have been acting on them since their formation. Volcanic intrusions 1,800 million years ago introduced thick sills of igneous dolomite and basalt between the sedimentary layers, leaving older sedimentary rocks sitting on ever so slightly younger (in a geological context) volcanic layers.

The Mitchell Plateau is a remnant portion of the much larger Kimberley Plateau. Fifty to 70 million years ago the region had a tropical climate (as it does now) and the very high rainfall caused deep weathering, leaching away the magnesium, calcium and some other elements and concentrating iron and aluminium.

In more recent times (about 17,000 years ago), sea levels rose as much as 180 metres, as ice from the last ice age melted. This drowned the coastline and established a new coast, sometimes up to about 200 kilometres inland from its former position. River valleys and

canyons became gorges flooded by the sea, and hills and mountains became islands and headlands.

A relatively humid tropical climate, the stable geological and biogeographic history as well as the area's isolation from other high rainfall tropics favoured the development of a diverse, rich biota over eons. This biological richness (almost all of which is intact today) along with the area's scenic grandeur and cultural importance gave the impetus for the creation of these significant new reserves.

HISTORY OF USE

Aboriginal people have inhabited the Kimberley for more than 40,000 years. The Wunambal people describe the creation of the landscape as central to their law and they have actively managed the land for cultural and sustenance needs over millennia. The remaining biological richness of the land can largely be attributed to their management and cultural activities. A major management tool was their expert use of fire and, after they moved to Kalumburu and other centres in the 1950s, the area was subject to inappropriate large-scale burning regimes. After moving, local Aboriginal people continued to visit their traditional lands and in the last few years have re-established a community on the Mitchell Plateau.

From as early as 1819, when botanist Alan Cunningham (who accompanied Lt. Philip Parker King on his surveys of the Kimberley coast aboard the cutter *Mermaid*) went ashore at Crystal Head and the Lawley River, the area has been of interest to scientists. Such early reports indicated an area of immense biological interest and this interest intensified after access was improved from 1965 onwards, allowing further investigations to be carried out. In November 1976, a major biological survey was undertaken of the Mitchell Plateau, the adjacent lands in the Mitchell and Lawley River drainage systems and the shores of Port Warrender. The survey was organised by the WA Museum, with officers from the then Department of Fisheries and Wildlife, the then National Parks Authority and the Field Museum of Natural History (Chicago) also participating.

Mineral exploration during the 1960s led to the discovery of low-grade bauxite deposits. They were sufficient, however, for mining companies to take out special permits to enable them to mine the area should economic conditions become favourable. Exploration also opened up this spectacular area to a few determined tourists with four-wheel-drive vehicles. The area's reputation had spread by 1978, when I first visited and was captivated by its unique vegetation, relatively pristine condition and spectacular scenery. Further biological studies sponsored by the mining company were carried out from the mid-1970s, and the richness of the area began to be more widely appreciated.

By the mid-1980s, it was obvious that steps needed to be taken to protect the area's fragile ecology from ever increasing visitor pressure, large-scale wildfires and feral animals. No government department had formal responsibility for the area, so an informal alliance of concerned officers from the then departments of Tourism, Forests, and Youth, Sport and Recreation was set up. The group was known as the Kimberley Natural Resources Management Group. With funding from the mining company, it produced a brochure to guide people within the Mitchell Plateau (but not designed to attract people to the area) and ensure they behaved responsibly. The group also put up signs to help visitors negotiate the confusion of mining tracks that existed at the time. The group had some discussion with the Wunambal people, who provided input into the naming of some of the features.

These measures were useful but, without resources to follow them up, the area remained largely unmanaged for some years. Community concern for the area was growing, however, and the local Land Conservation District Committee arranged some litter clean up and feral animal control over a

Left: Dense pandanus and paperbark vegetation along a creek line makes for difficult access through this area.
Photo – Jiri Lochman

Below far left: Stands of the cycad (*Cycas lane-poolei*) occur on deeper soils.
Photo – Kevin Kenneally/CALM

Below left: A patch of rainforest surrounding a dry creek bed.
Photo – Marie Lochman

number of years, while the Shire of Wyndham-East Kimberley upgraded the directional signs. More recently, the State Government and the mining company (the Mitchell Plateau Joint Venture) entered into an agreement to station a CALM ranger on the plateau to assist the growing number of visitors. Commercial tour operators had by this time set up camps on the plateau and offered scenic helicopter flights over the area.

NEW RESERVES

In 1980, the Environmental Protection Authority's 'Red Book' for System 7 (the Kimberley) recommended the creation of conservation reserves on the Mitchell Plateau. In 1991, CALM's publication *Nature Conservation Reserves in the Kimberley* reassessed and refined the proposals. The National Parks and Nature Conservation Authority accepted that the proposals should be pursued on an opportunistic basis. However, little progress was made in expanding the conservation reserve system in the area, mainly because the mineral potential of the region had not been fully assessed and it was recognised that Aboriginal interests needed further consideration.

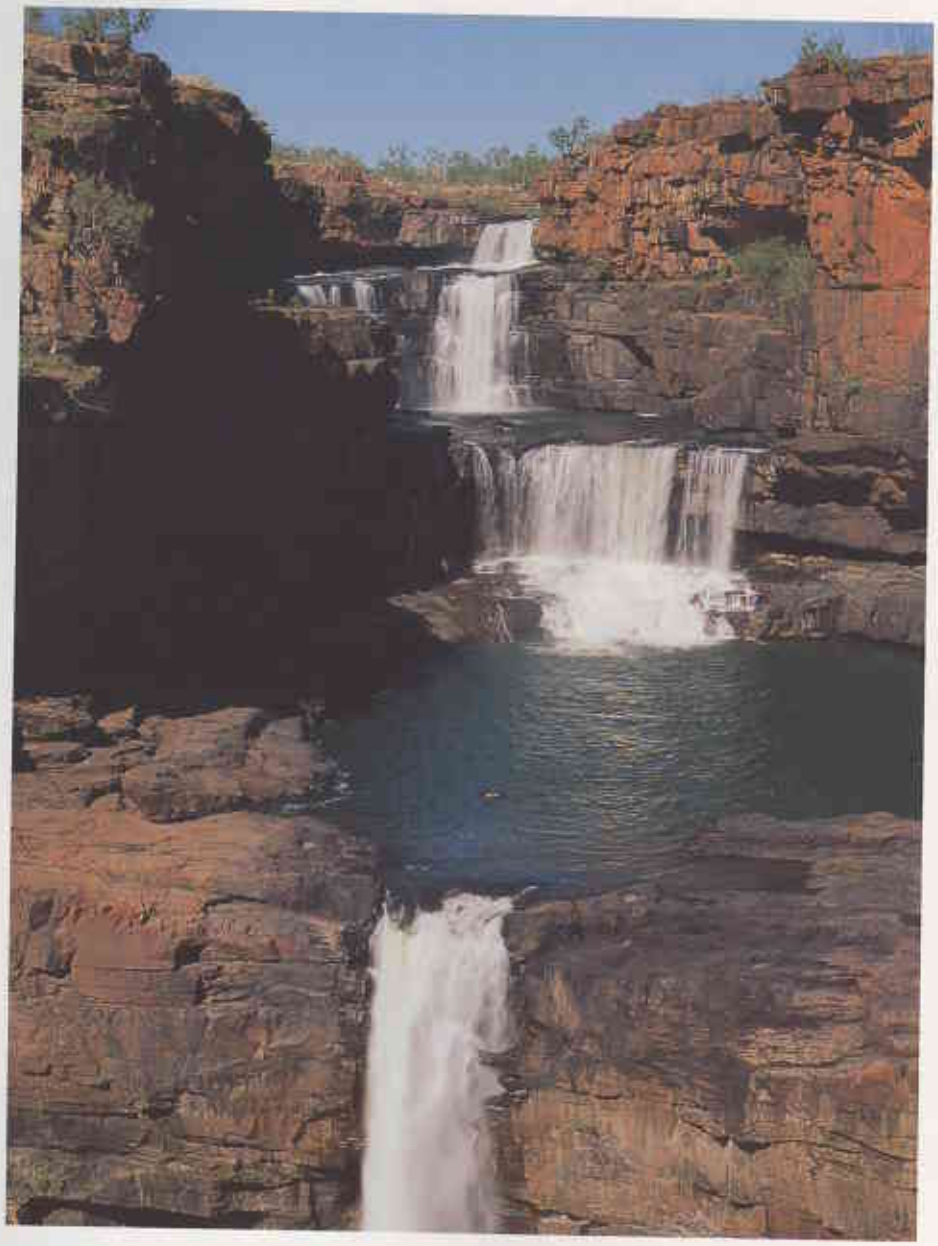
Finally, in August 2000, The Western Australian Government announced the creation of four new north Kimberley parks, to protect and conserve the region's important ecosystems, cultural features and landforms from ever increasing pressures. CALM was given responsibility for actively managing the areas. The new reserves are as follows.

Laterite Conservation Park, covering 12,191 hectares of the Mitchell Plateau, was reserved to protect a representative area of the distinctive Mitchell Plateau vegetation. Mitchell River fan palms (*Livistona eastonii*) occur only on the plateau and in nearby areas. In association with woollybutt (*Eucalyptus miniata*), Darwin stringybark (*E. tetrodonta*), Melville Island bloodwood (*Corymbia nesophylla*) and round-leaved bloodwood (*C. latifolia*), the palms dominate the plateau vegetation. In fact, this is the only locality in the State where palms are such a dominant feature. Also conserved in this area are ancient cycad plants. The conservation park was reserved with the cooperation of the Mitchell Plateau Joint Venture (which also held the Mitchell River Pastoral Lease), which relinquished portions of their pastoral lease and mineral tenement.

Mitchell River National Park covers 115,325 hectares. Mitchell Falls and Surveyors Pool are the park's two main scenic attractions. At Mitchell Falls, the Mitchell River cascades over a series of falls and pools over blocky layers of sandstone, each successively more spectacular, and finally plunges into a deep gorge. Surveyors Pool is surrounded by white bluffs of King Leopold Sandstone. Riverine and rainforest vegetation, mangroves and extensive sandstone formations represent some of the variety of habitat. The new park adjoins the Prince Regent Nature Reserve to the south

Right: The Mitchell Falls is highly significant to the traditional Aboriginal owners. It features strongly in their creation stories.

Below right: The monjon is confined to the rugged north-west Kimberley and some adjacent islands, including the new conservation reserves.
Photos – Jiri Lochman



and extensive Aboriginal lands to the west.

Lawley River National Park, covering 17,572 hectares takes in the Lawley River catchment and extends to the River's mangrove-lined mouth in Admiralty Gulf. It encompasses a wide variety of habitats and supports a diverse range of plant and animal species.

Camp Creek Conservation Park, a small reserve of just 1,267 hectares, protects some significant rainforest patches, some of which are subject to long-term monitoring programs.

Thirty-nine species of mammal have been recorded from the Mitchell Plateau area (the largest number known from any area of similar extent in Western Australia), including the monjon (*Petrogale burbidgei*) and scaly-tailed possum (*Wyulda squamicaudata*). The newly-created reserves around the Mitchell Plateau have all been subject to previous land tenure such as pastoral lease. The reservations will coexist with native title rights.

MANAGEMENT

The new parks adjoin Aboriginal reserve. Complementary management objectives for both tenures will go a long way to ensuring that the unique biological values, perhaps the least impacted of all mainland Australian regions, are maintained. Cultural values will also be protected.

The involvement of the native title claimants is considered by CALM to be vital in the management process. A management plan being produced by the Wunambal people is a welcome initiative and will complement recreation management concepts jointly developed with them by CALM over the past 18 months or so.

CALM looks forward to effective cooperative management with Aboriginal claimants of the new reserves.

Inappropriate fire regimes and the presence in the area of feral cattle and other exotic animals have been impacting adversely on the region's biota over recent decades and are two of the major management imperatives. It is hoped that traditional knowledge can be incorporated into modern fire management techniques so that the adverse impacts of fire can be minimised. Feral cats are as much a problem here as they are in other areas of the State, despite its remoteness.

Managing the area so that visitors can see and appreciate its values without affecting them is a major challenge and working in partnership with the Aboriginal people from the area will greatly enhance this process.

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Winner of the 1998 Alex Harris Medal for excellence in science and environment reporting.

LANDSCOPE

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Armed with sketch pad, pencils, pens and paints, an intrepid group of artists set off on a brand new LANDSCOPE *expedition. See 'Awash with Colour' on page 28.*

Most of us only know of the exotic pest ants that invade our kitchens. But what of the great Australian ants? See page 23.

Ningaloo Marine Park and Cape Range National Park lie side by side in our north-west corner. Read about how they are managed on page 17.

Four more conservation reserves now offer greater protection to areas in and around the Mitchell Plateau. See 'Parks of the Plateau' on page 48.

Scientists continue to develop ways to locate, track and trap animals for research. See 'Tools of the Trade' on page 41.

FEATURES

REGULARS

COVER

For many years, the decline of frogs in various parts of the world has puzzled conservationists. A breakthrough came in 1996 when scientists isolated a new kind of fungus that infects and may kill frogs. Western Australian research now under way is beginning to answer some initial questions about the fungus and its impact on our unique frogs. See 'In Pursuit of the Frog Fungus' on page 10.

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