

St. George Basin, Mt. Trafalgar and Mt. Waterloo in the background



Andrew Burbidge

Aboriginal cave paintings



Jiffi Lochman

Yellow-throated Miner



Marie Lochman

Marbled Velvet Gecko

PRINCE REGENT

JEWEL OF THE KIMBERLEY

by
Andrew Burbidge
Chris Done
and
Barry Wilson

The Prince Regent Nature Reserve is a wonder of natural history covering 633 825 hectares of rugged sandstone and volcanic country in the State's highest rainfall area. Located in the north-west Kimberley, it is one of Australia's most remote places. Once, remoteness was a barrier to people and very few visited the region after the original Aboriginal occupants (Worara tribe) moved to European settlements in the 1930s. Now, however, the remoteness has become an attraction.



OVER the past ten years a thriving charter boat industry has developed in this part of W.A. It has been estimated that there were between 50 and 100 boat visits to the Regent in 1986, and 1987 saw the first voyages of the 'Kimberley Explorer', a luxury catamaran carrying 32 passengers and 10 crew. One of the features of any boat trip along the Kimberley coast is a visit to St George Basin to see Mount Trafalgar and Mount Waterloo, and to the Prince Regent River to view King Cascade.

A nature reserve is a place people may visit, but facilities are not provided and human activity should not adversely affect the biological values. Clearly, with the increase in visits to the Prince Regent Nature Reserve some control now needs to be exercised over the area.

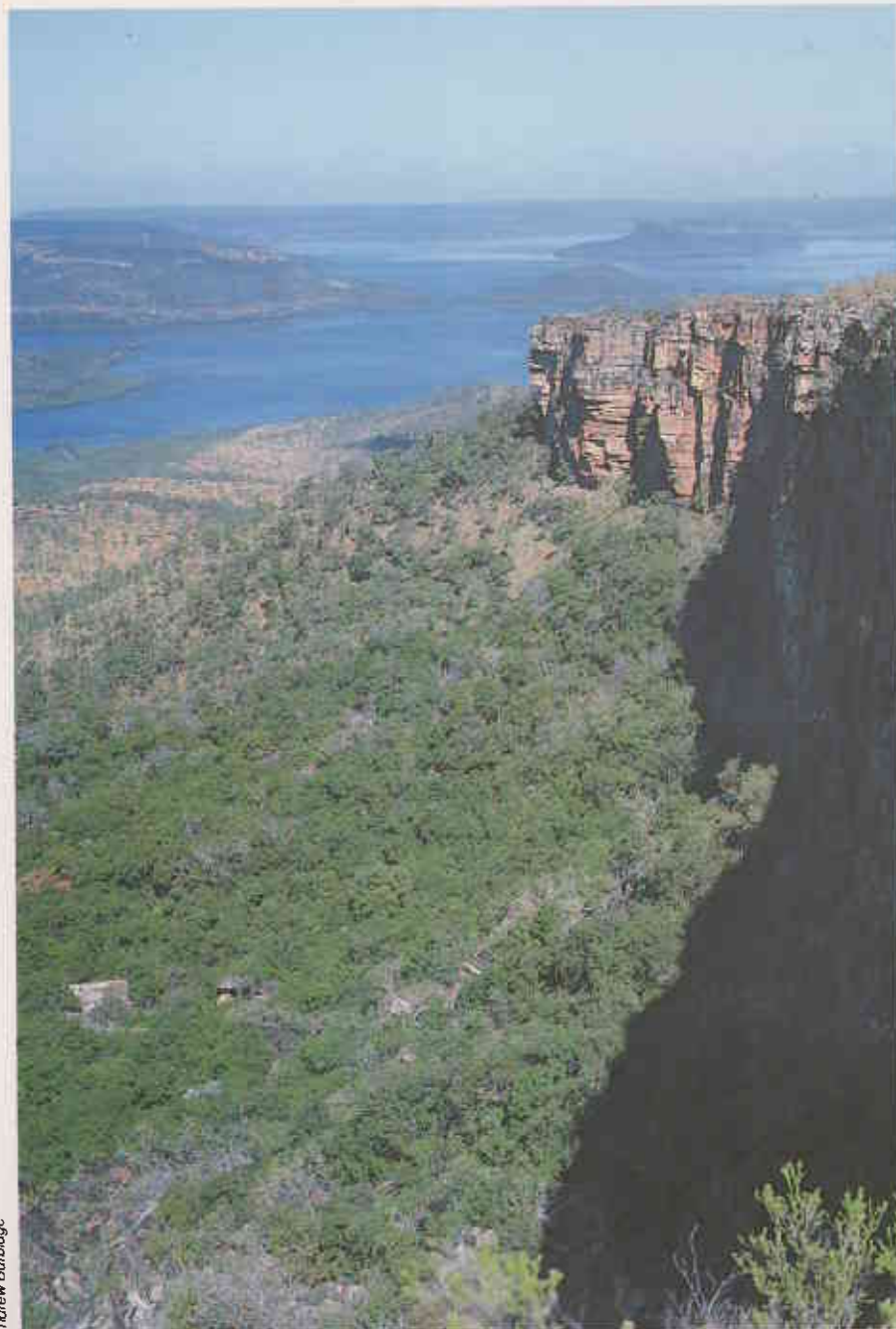
Present control is via a permit system. The Reserve is declared a 'prohibited area' under the CALM Act, and a permit is required to visit it. Notice is required because of the Department's agreement with the Mowanjumb Aboriginal Community. Few permits have been issued, but now many private yachts are including the Prince Regent on their itinerary during coastal cruises, and most do not realise the area's status and do not have a permit.

The Prince Regent gained some notoriety early in 1987 when an American tourist was attacked and killed there by a Saltwater Crocodile. The private launch on

Deep freshwater pool in the Roe River; home of freshwater crocodiles, turtles and fish (top).

St. George Basin from the summit of Mt Trafalgar. Rainforest below the cliff (left).

King Cascade (right).





which this party was travelling did not have a permit to enter the Reserve, and therefore had not been given advisory information on the crocodiles, and how to take precautions to prevent attack. If there had been a field station in the Reserve things might have been different.

As well as controlling permit use there are other management problems. As with much of the CALM estate in the Kimberley, two of the management issues in the Prince Regent Reserve are the control of feral animals and the reimposition of an appropriate fire regime.

Feral animals known to already occur in at least part of the Reserve are donkeys, cattle and cats. The last are thought to be widespread, but cattle and donkeys have not yet penetrated many areas, and it is essential they be contained to ensure that damage is minimised.

In other parts of the Kimberley, cattle and donkeys have been observed to cause massive erosion, and cattle in particular have opened up the ecologically important patches of rainforest, allowing invasion by annual grass species and subsequent burning from wildfire. These rainforests contain many fire sensitive species, and



Norm McKenzie

Cattle-caused erosion to Blyxa Creek, a tributary of the Prince Regent.

their size and diversity is reduced by recurring fires.

During Aboriginal occupation of the area, fire is thought to have been far more frequent, but on a much smaller scale than is now the case. Fire was used by Aborigines for hunting as well as for facilitating movement throughout the area. Much of this burning would have taken place early in the dry season when a combination of cool temperatures, high humidities and partially cured fuels would allow the fires to go out at night. This mosaic of recently burnt areas and low fuel loads would have

limited the extent of wildfires later in the season.

The cessation of Aboriginal burning practices has resulted in fuel loads building up and, inevitably, extensive fires of great intensity, mainly late in the dry season. Many dead trees and areas of 'fire weed' invasion bear testimony to this change. Such a fire pattern is self-perpetuating, as the destruction of the trees and the subsequent regrowth of annual grasses and short-lived perennials (such as some *Acacia* species) give a rapid fuel build up capable of carrying a fire on an almost annual basis.

Long ago when sea-level was lower and the present-day NW Kimberley coastal islands were part of the mainland, ancestors of the Worara people asked their northern neighbours, the Wannambal tribe, to share with them a piece of their high country. It was agreed and a certain high, flat-topped mountain was split in half. The Wannambal people kept one half and it now stands in the sea, known by Europeans as Montlivet Island. Help was sought from some fishes and crustaceans who wriggled under the other half. They lifted it onto their backs and, with buckling knees,

carried it down a road they had made, far south into Worara country. But they had trouble getting out from under where they parked it. They couldn't get it straight and so it remains now with a tilt to the south. Also, when they emerged it was discovered they they were all squashed almost flat by the weight they had borne; their offspring, the rays, shovel-nosed sharks and crabs, remain that way today. The Waroora people call the mountain 'Widulgup' which means 'split in half'. They are very proud of it even though it tilts a little bit and is not finished. David Mowljarli

The use of satellite imagery will allow monitoring and establishment of a more accurate fire history and should assist with establishment of a more appropriate fire regime. Aerial ignition of strategically placed, early dry season fires began on a trial basis in 1988.

As a first step towards developing a management presence in the Prince Regent Nature Reserve, a team from CALM and Mowanjum visited the area in June 1987. The three authors were accompanied by Sam and Maurice Umbergai, Yerticle Maru and Charles Oobagooma, Worora men from the Mowanjum community, and Dr Patricia Vinnicombe of the W.A. Museum's Department of Aboriginal Sites. The team travelled to the area in the charter boat 'Wave Spirit', and while in the Reserve surveyed and visited some areas by helicopter.

The aims of the expedition were twofold: to select an area where a field station could be built and to liaise with the Worora people with a view to using their knowledge of the country and involving them in management of the area.

A follow-up visit in June 1988 allowed more detailed examination of the site by a consulting engineer. Various options are being considered for the construction and servicing of the field station, but the selection of a suitable site was the most important decision made.

Aborigines from the Mowanjum Community with Barry Wilson in a tidal tributary of the Prince Regent (top).

Pitta Gorge: Pitta Creek, a tributary of the Prince Regent flows through the gorge. Access to the rugged north-west Kimberley is difficult (centre).

Co-author Andrew Burbidge drinks from a fern-clad seepage (right).



Andrew Burbidge



Barry Wilson



Barry Wilson

The Prince Regent Nature Reserve includes significant areas of the three main geological sequences of the north-west Kimberley, and protects many areas of scenic grandeur.

An ecological survey conducted in 1974 revealed a biological richness in the area, and further studies in 1987 and 1988 during the rainforest surveys have added considerably to our knowledge. The Reserve area contains over half the mammals and half of the bird species found in the whole Kimberley region, and more than 502 species of plants were located in the 1974 survey.

The north Kimberley is the only place in W.A. where the mammal fauna has not declined since European settlement. Thus the Prince Regent Nature Reserve is the only mainland conservation reserve in the State with an intact fauna. The Reserve also supports a major population of the Saltwater Crocodile, and counts in 1977/8 and 1986 showed that crocodile populations are recovering more rapidly there than elsewhere in the Kimberley.

Proposals to enlarge the Reserve by declaring St George Basin and Prince Frederick Harbour marine reserves, and adding the small section of the Prince River catchment not already in the Reserve, received endorsement by the Environmental Protection Authority in 1978. Recently, CALM re-submitted these proposals to the Kimberley Region Planning Study, together with a recommendation that the area be declared a national park.

The smallest wallaby, *Petrogale burbidgei*, known to Wunuppal Aborigines as 'Monjon'. This species occurs only in the Reserve and nearby country (top).

Roth's Tree Frog, *Litoria rothii*; plentiful along freshwater creeks all year round (right).



Jiri Lochman



Jiri Lochman

The extremely rugged nature of the terrain along most of the coastline, cost, and the sensitivity of sandstone areas to damage restricted consideration to areas of volcanic rock. The site finally selected is near the base of Mount Waterloo, so the field station has been nicknamed 'Waterloo Station' pending the selection of a suitable Worara name.

During examination of the site on foot we were fascinated to find signs of previous occupants - it had been used by Aborigines as a camping ground, and there were also European artifacts: pieces of rusting corrugated iron, crumbling stone walls and a small dam. Clearly, others also thought 'Waterloo Station' a good place to live.

Much of the materials to construct and support the base will be brought in by sea, so a suitable barge landing is essential. The team selected two sites, one adjacent to Mount Waterloo and another on



Jiri Lochman

Northern Native Cat (*Dasyurus hallucatus*).

Rothsay Water a few kilometres to the north; the latter gives immediate access to a site selected for airstrip construction. Sea planes are becoming a feature of the Kimberley, and may be used for immediate or emergency access until an airstrip and ground access can be built.

The Worora men on the expedition strongly favoured the construction of a station and are looking forward

to participating in management of the area. Further negotiations are continuing with the Mowanjum community.

Now the whole operation needs to be funded. A request for funds has already been made to the Commonwealth Government as part of the National Rainforest Conservation Program and matching funds are being sought from the W.A. Government. Approaches are also being made to the private sector for assistance. A field station in this remote place would be of benefit to various organisations and would be extremely valuable during search and rescue operations.

If all goes well, construction will commence in the dry season of 1990. It is to be hoped that the plans come to fruition, as the overwhelming impression of the Prince Regent Nature Reserve is that of a place unspoiled by modern man, but needing care to see it stays that way.

The south-east cliff face of Mt. Trafalgar, with rainforest at its base.



Norm McKenzie



LANDSCOPE

Volume 4, No.1
Spring Edition/September 1988

In W.A. the concept of marine conservation reserves was firmly established in 1984 when the CALM Act was passed, with provision for Marine Parks and Marine Nature Reserves, vested in the National Parks and Nature Conservation Authority.

Since 1984 two major Marine Parks have been declared in W.A.: Marmion and Ningaloo.

This is a new field in W.A., and there are no local precedents to guide us in resolving the many management issues which have emerged.

A first consideration has been that fishing is already controlled under the Fisheries Act. It would be foolish for CALM to attempt to establish itself as a fisheries management agency. A policy decision has been made that any fisheries in Marine Parks will be regulated under the Fisheries Act.

A more philosophical problem has been that many citizens, although generally sympathetic to the conservation cause, are unaccustomed to the idea of having parks and reserves in the sea. The idea that the sea is a public common where anything and everything goes is still well entrenched in public attitudes. Yet there are many terrible examples around the world where coastal environments and their resources have been devastated by excessive and improper use. In W.A. we have not reached that point.

W.A. can be proud of its fisheries management record, based on the principle of sustainable use for posterity. Development of a marine parks and reserves system along our coast is another essential part of the overall objective. It is to be hoped, then, that our first initiatives in this direction will receive public support.

PINES



*How can less than four per cent of the State's area supply us with all our timber needs, and save the hardwood forests at the same time?
Details on page 28.*

WALL OF MOUTHS



It's a fish-eat-coral world, but what do the coral eat? Find out on page 32.



BORERS

Now you can be sure there are no borers in the door. Well, if they are there, at least you'll know what to call them after reading the article on page 42.

TROUBLED WATERS



Does the very word pollution make you feel powerless? Discover what you can do to help the wildlife victims on page 20.

FOREST RENEWAL



What is the connection between the poets' of the First World War and W.A.'s forests? Find out on page 56.



JEWEL OF THE KIMBERLEY

What do you mean frog? In my home I am a prince. After all, Prince Regent is the only mainland reserve where all of the original animal species remain. Meet the rest of them on **page 47**.

HILLS' BELLES



When Perth looks out its backdoor in spring the Hills are ablaze with colour. Your field guide to some of our glorious wildflowers starts on **page 4**.

ATTENTION ADULTS!

Sick of taking the anklebiters to the same old national parks and camping spots? Put them to work for you. If they enter the kids' competition on **page 63** they could win two beautiful books on all the best picnic and camping spots between Perth and Eucla.

GATHER NO MOSS



The trouble with lichen is that up until recently it wasn't protected flora. Now lichen and their relatives - mosses, liverworts and algae - have joined the rest of the State's flora. See **page 54**.

RIGHT ON TRACK



Is a high-tech wilderness trek a contradiction in terms? Find out how 4WDs and conservation can co-exist peacefully on **page 12**.

Cover Photo



Magpie Geese take off from the Ord River.

Photo: Richard Woldendorp.

CONTENTS

	Page
Hills' Belles <i>by John Marshall and Brian Tullis</i> . . .	4
Right on Track <i>by Kylie Byfield</i>	12
Bush Telegraph	19
Troubled Waters <i>by Liana Christensen</i>	20
Urban Antics: Marron Glace <i>by Andrew Cribb</i>	27
Pines - The Soft Option <i>by Don Spriggins</i>	28
Wall of Mouths <i>by Barry Wilson</i>	32
Book Review: <i>Wild Places, Quiet Places</i>	40
More Boring Insects <i>by Ian Abbott</i>	42
Prince Regent: Jewel of the Kimberley <i>by Andrew Burbidge, Chris Done and Barry Wilson</i>	47
Gather No Moss <i>by David Coates</i>	54
Rebuilding the Cathedral <i>by Roger Underwood</i>	56
Endangered: Golden Bandicoot <i>by Andrew Burbidge</i>	61
Letters	62

Managing Editor: Sweton Stewart
Editor: Liana Christensen
Designer: Robyn Mundy
Production: Carlene Pearson/Karen Addison
Offset plates by The Colour Set
Printed in Western Australia by Kaleidoscope

© All material copyright. No part of the contents of the publication may be reproduced without the consent of the publishers.



Published by Dr S Shea, Executive Director,
Department of Conservation and Land
Management, 50 Hayman Road, Como, W.A.
6152