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WEBSITE OF THE CENTRAL NORTH FIELD NATURALISTS

A Short Visit to Kakadu National Park

by Jim Nelson



Kakadu wetlands

I have this problem with the topics: I love the amazing diversity, but I detest hot, humid weather. Thus, a trip to the Northern Territory to see one of Australia's premier natural areas, Kakadu National Park, demanded careful planning to try to get the timing right. Deb's research suggested mid-May was the beginning of the 'cool weather season', and should offer drier, slightly cooler temperatures while being early enough to beat the mid-winter hoards of visitors. Alas, the weather didn't cooperate, and it was hot, humid, showery weather. Even the locals were complaining about the steamy conditions.

To experience much of Kakadu, one needs to have or hire a 4WD vehicle, or else choose from the many 4WD tour operators who can transport you and act as guides. Unfortunately, because of the wet weather, most of the 4WD tracks

into the interesting areas of the park were closed. Our best option appeared to be to take a plane trip to gain an overview, and so we decided on a 2 hour flight leaving from Jabiru airport to experience at least some of what we had come so far to see. It turned out to be a good option as the grandness of the huge and diverse natural region was revealed to us. Should we manage a return visit, we will have a good idea of areas we would like to explore on the ground.



A number of eco-systems are found within Kakadu. The sandstone Arnhem Land plateau is the source for the rivers in the park. It covers over 16,000 kilometres. This great sandstone area runs along the eastern and southern part of the park, and the great rivers drain off the escarpment in dramatic waterfalls. Plane flights mainly concentrate on taking people to see the spectacular waterfalls, and most of them would be difficult to get to on the ground. They were certainly spectacular, which was one advantage of the unseasonable weather. The escarpment itself is also an astonishing feature

seen from the air. It has been shaped, raised, lowered and

Twin Falls

eroded over the amazing time span of the past 2,500 million years.

All the ecosystems of Kakadu are dominated by extremes of wet and dry. For almost eight months of the year there is no rain. The wet months are quite wet, with almost 1500 mm falling mainly in 4 months. The temperature throughout the year ranges from hot to hotter, reaching 30+ for most days. The dry months are less humid, and occasionally the temperature will fall to 18 degrees at night. It didn't for us, unfortunately.

The large quantity of water we saw coming off the plateau spreads out onto the floodplains of the lower country on its way to the sea creating immense wetlands that attract enormous numbers of migratory birds that stay through the wet months. These floodplains are still recovering from almost a hundred years of abuse caused by the introduced Asian Water Buffalo. Feral pigs and weed invasions remain a problem, and increasing high visitor numbers of our species is creating many challenges.

Eventually, the flooded wetlands drain into the billabongs and various river channels, and then down through paperbark swamps and mangroves to reach the Van Diemen Gulf. During the dry season the water retreats completely to the billabongs and rivers, and the wetlands areas become dry plains.

The most widespread habitat of Kakadu is the Tropical Woodlands. They are dominated by Eucalypts with an understorey of Cycads, shrubs and vigorous tall grasses. These areas are very rich in wildlife diversity, and are mainly about all that can be seen from the sealed roads. Our first night in the park was in the woodlands, and I spent much of it listening to an astonishing chorus of Southern Boobooks. There were so many individuals calling and answering to the very edge of my hearing range that I couldn't begin to count them.

The grasses of the woodlands were mostly dried off and were being burned in the traditional manner of mosaic burning carried out for thousands of years by the several aboriginal tribes of the land. I was particularly taken by the beauty of the Cycads in these woodlands, and I was amazed to find that they were able to withstand the frequent fire regime.

Cycads are a group of plants absent from Tasmania but represented on the mainland by 30 endemic species in three families. Cycads are very interesting from the point of view of being the oldest living representatives of the first seed-bearing plants, the Gymnosperms. While they somewhat resemble palms, and to some extent ferns, they are botanically related to conifers based on bearing their seeds in cones. In addition to their interesting botanic status, I think they are quite beautiful.

Around 190 million years ago during the Jurassic period, forests of cycads, ginkgos, ferns and primitive conifers similar to the Araucaria (monkey-puzzle trees) supported the great dinosaurs. Around 60 million years later during the Cretaceous the flowering plants (angiosperms) with their more sophisticated reproductive system were able to adapt to climate change (which is neither a belief system nor a new phenomenon), and a flora was established that is largely unchanged to this day. The older plants such as the gymnosperms (including Cycads) and ferns adapted and were relegated to the niches much like where they are found today.

When we travelled to the southern end of the park, the Salmon Gum (*Eucalytus tintinans*) often dominated the woodlands. They are a particularly attractive species. Common in such woodland areas are impressive termite mounds which intrigued me greatly with their sculptural forms.

In the Litchfield NP to the South of Darwin, there was an interpretation site for termites and their various mounds, which was quite interesting. It informs that many of the species are not even named, and little is known about their life histories in spite of the fact that they play important roles in the system. Termites come out at night and harvest forest litter, and through nutrient conversion they provide a vital service to the tropical woodlands. They also provide food for many animals from echidnas to birds, lizards and ants.

With the mound building termites, each species builds a distinct mound. The Magnetic or Meridan Termites (*Amitermes meridionalis*) build narrow wedge-shaped mounds which are strictly oriented in a north-south axis. The species is restricted to a small area south of Darwin.

The Bininj people find burning the nesting material of termites to be very useful as a mosquito repellent, for a heating agent and for flavouring meats during underground cooking. Perhaps they could market the mosquito repellent idea, because the 13 species of tropical mossies are a particular nuisance to deal

Termite mound

with. One little black species with very narrow wings seems to be able to dive bomb with its proboscis extended to enter straight into flesh. Apparently, the mossies are even worse later during the dry season.

Mosquitoes are in fact one of the most dangerous animals in Kakadu as they carry a range of infectious diseases, some life threatening. Most visitors will never see the dangerous snakes, because they avoid humans, but the mossies are an almost ever present danger as well as a nuisance.

Upon arrival in Darwin, one of the first animals I saw was a cane toad. This introduced, noxious, toxic pest is an enormous challenge facing Kakadu National Park. It first entered Kakadu in 2001 where they are now common and represent a vicious threat to a wide variety of native species. The Northern Quoll was classified as Endangered in 2005 due largely to the toxic toad. In a sane world, a responsible Federal Minister for the Environment might have looked at providing significant funds and strategies for the eradication of this critical pest rather than for a fatally flawed insulation of homes scheme. Our political systems serve the natural systems of the planet poorly, and thus may ultimately cause a collapse of our life support system.

So it is not surprising the greatest challenge identified for the Park is indeed our own species, which increasingly is impacting on its natural values in many ways in addition to our introduction to Australia of the Cane Toad. A visit to such an amazing place as Kakadu brings greater awareness to the view that our species can in so very many ways be classified as an 'Endangering Process', not only to places like Kakadu but to the planet. I can only return home with the feeling that we desperately need to find ways to change. The



question is: can we halt the Juggernaut of insatiable greed? It seems more than doubtful. I certainly plead guilty to wanting to travel to see these amazing places - and thus represent part of the problem.

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