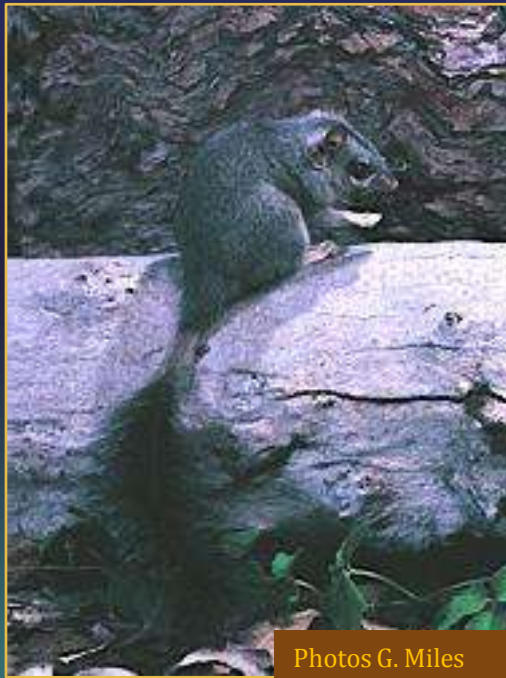


Responding to the Conservation Crisis in North Australia

Case Study:

Kakadu



Photos G. Miles



Greg Miles 2012

Background note:

At the outset of this background, it is important to note that within days of this presentation being delivered to the NT Field Naturalists Club on the 14th November 2012, the latest edition of the *Quarterly Essay* hit the streets. In it, Tim Flannery describes a national scene (including specific references to Kakadu) which echoes the sentiments contained in this presentation.

Similar observations were made on Nov. 22 by Prof. Stephen Garnett of CDU, Darwin in a piece published in *The Conversation* titled, *Saving Australian endangered species – a policy gap and political opportunity*. It appears that Flannery and Garnett are recognising a gathering groundswell of alarm in the community at what is happening to the nation's biodiversity, and the ineffective Government response to it. Included in this dialogue is a growing realisation that our national reserves system is failing to offer well informed as well as fully appropriate protection for our flora and fauna.

Things must change, and why not start at the top – with Kakadu.

Kakadu was particularly chosen for this presentation for several reasons:

1. It occupies pretty much the pinnacle of all national parks in Australia in terms of national profile, size and funding.
2. It contains about 90% of the NT's endemic plants and animals
3. Despite the Parks relatively generous funding, many species of wildlife are in serious trouble there.

What is this presentation all about?

This is about measuring Parks Australia's nature conservation policies and actions against the overarching policies of the Federal and NT Governments.

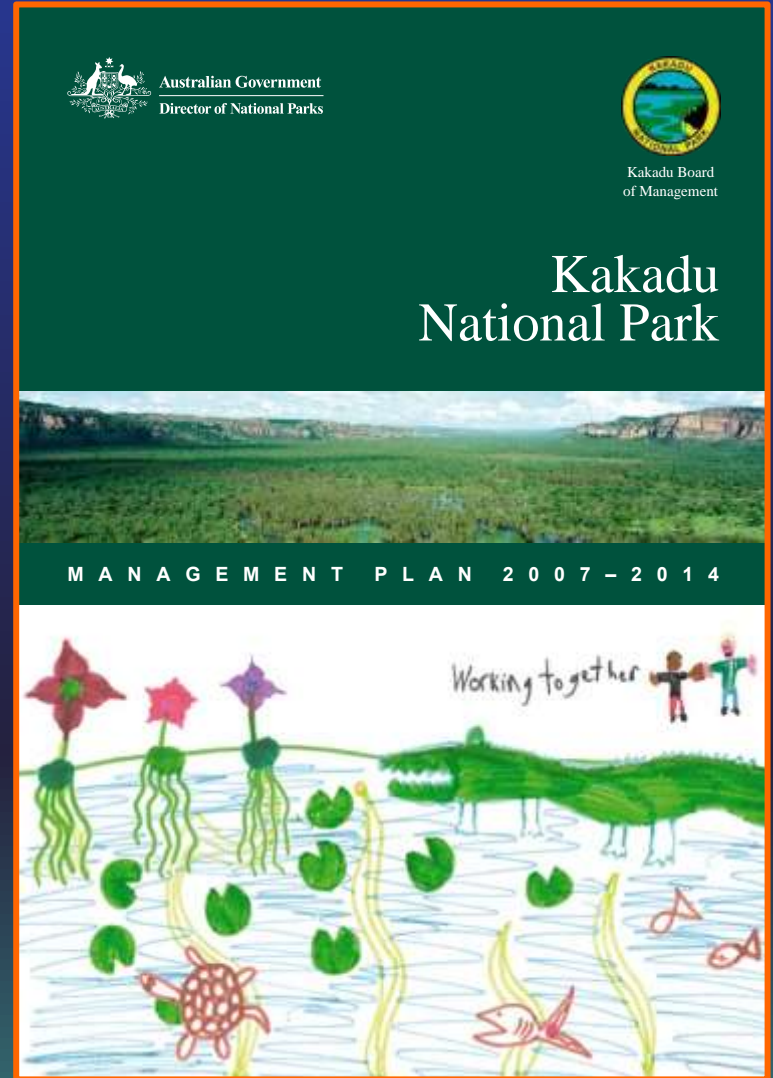
This study focuses on Kakadu animals which are most in need – the endemic and threatened species.

What will be put before you is evidence that Kakadu wildlife conservation policies are:

- inversely prioritised,
- poorly focused,
- lacking in conviction
- delivering no meaningful conservation benefits for endemic and threatened species in particular.

Is this a fair assessment?

The sources

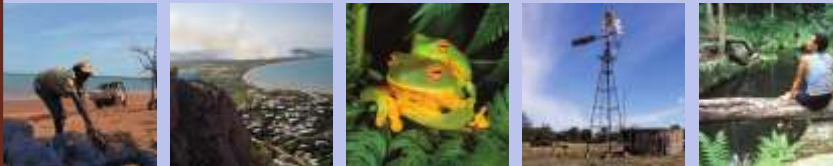


Background note:

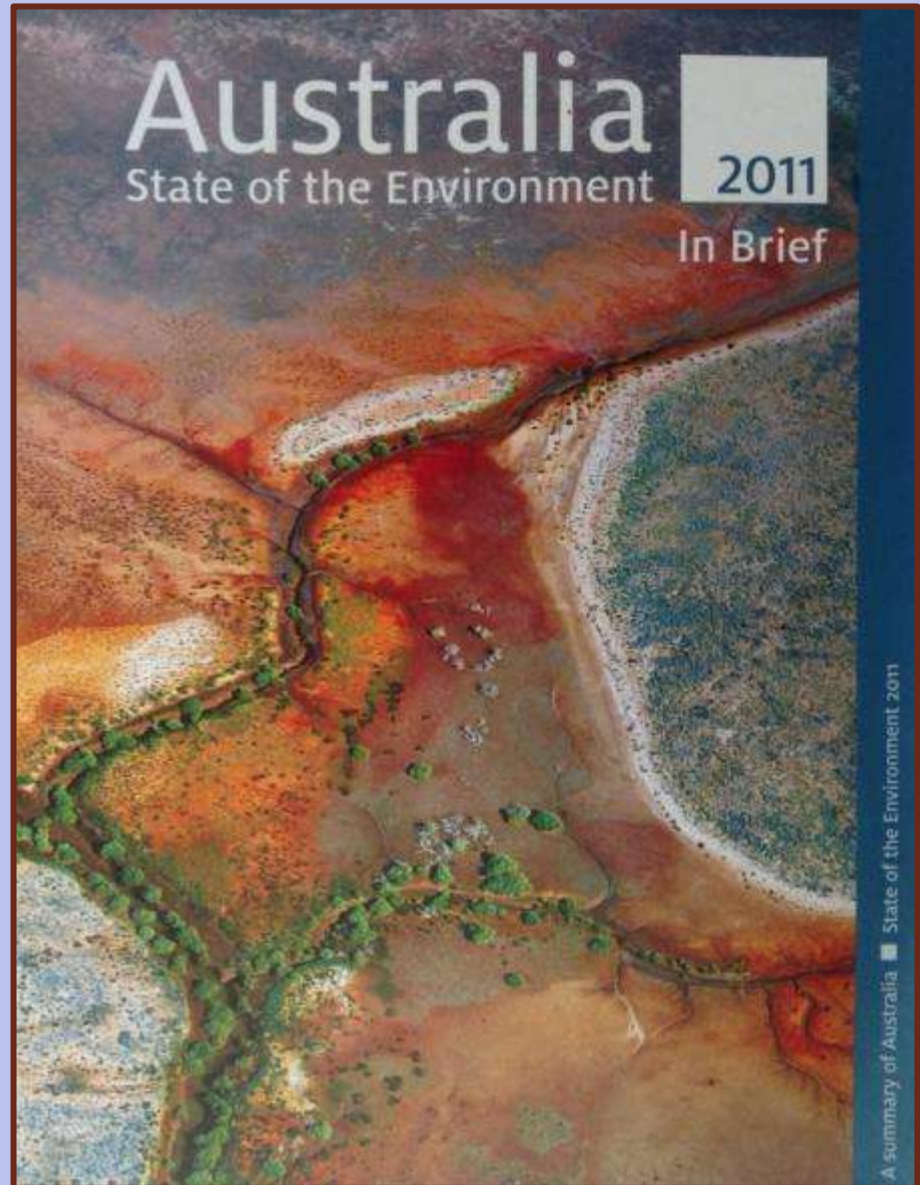
This presentation was based on survey of published material available in the public domain. This was then combine with my own personal knowledge and written responses to the Oenpelli Python and Giant Skink proposals.

The presentation did not go into great detail about these projects but detailed material is available.

Australia's Biodiversity Conservation Strategy 2010–2030



Natural Resource Management Ministerial Council

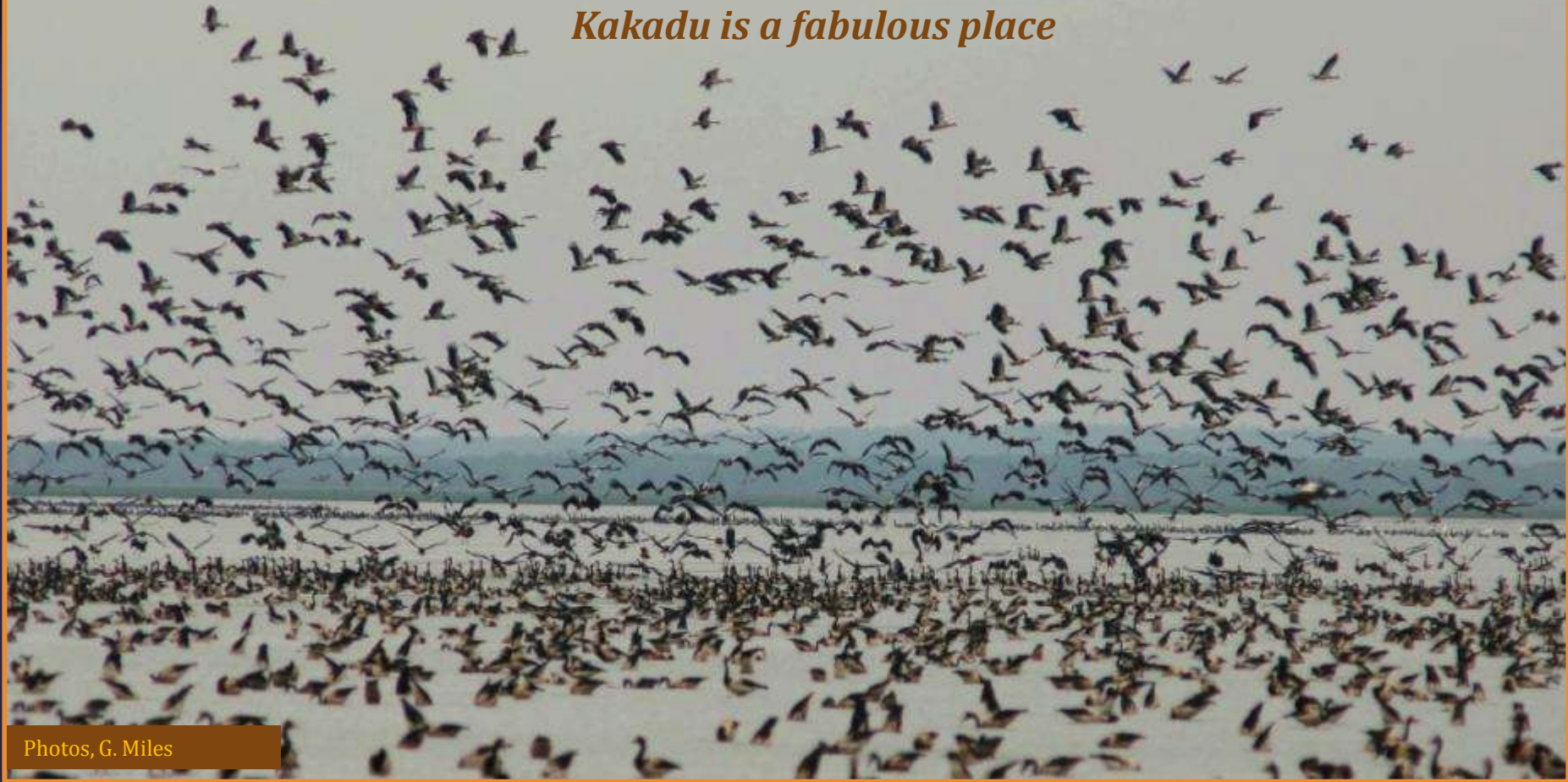


Additional information has been taken from:

- **The EPBC Act**
- **The Convention on Biological Diversity (CBD)**
- ***Sustainable Use of the Oenpelli Python Program*** – NT Parks and Wildlife 1/12/10
- ***Lost From Our Landscape - Threatened Species of the NT*** - Parks and Wildlife, 2007
- The Kakadu web site
- ***State of the Parks Report***, a document supplementary to the Director's Annual Report, 2011



Kakadu is a fabulous place

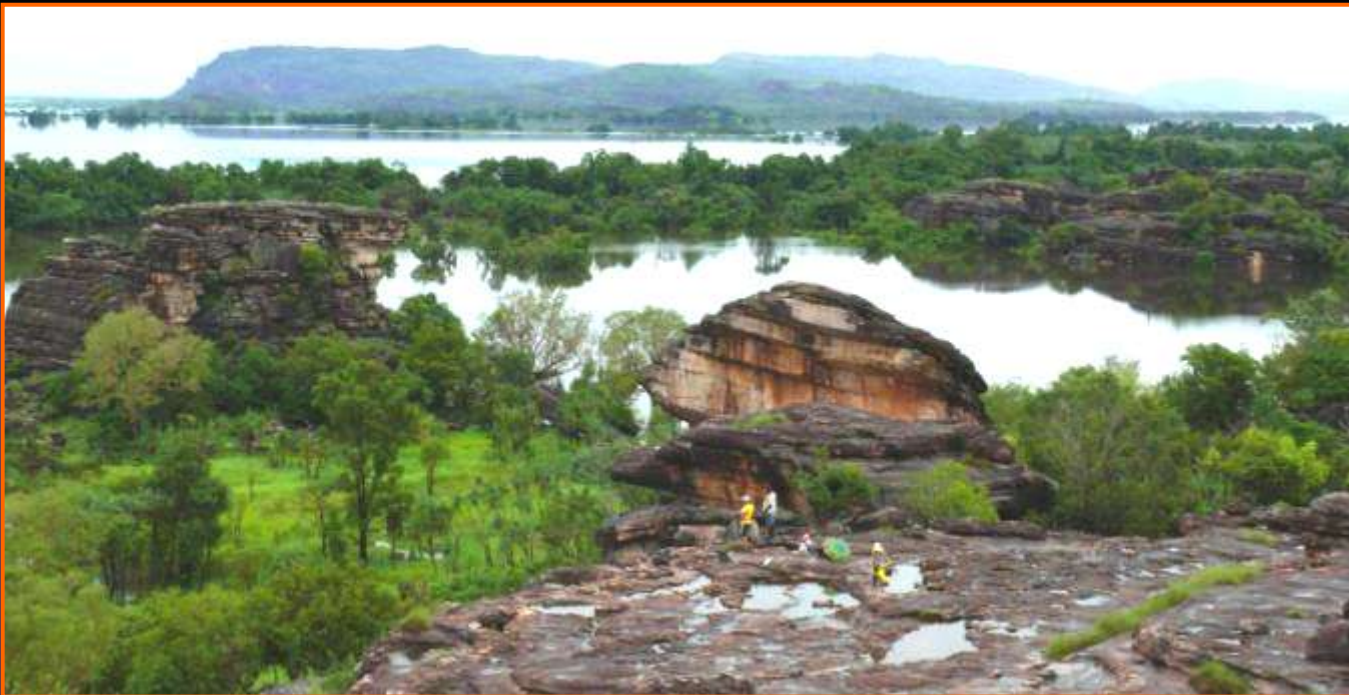


Photos, G. Miles



Background note:

Kakadu is a highly significant park both within the national and international context, therefore I am not about to join Prof. Corey Bradshaw at Adelaide Uni. in describing Kakadu as a failed national park. Dented maybe, but not failed.



Something is badly wrong in the bush.

- Weeds e.g. 85% of Magela Creek is under Para Grass and 80% of the NT population of geese rely on Boggy Plain alone.
- Ferals
- Toads
- Fire *and*
- ???



The result -
Dramatic loss of wildlife

So how does PA respond:

Background note:

This screen ushers in a discussion about how difficult it is for Parks Australia to reign in many of the environmental destructors in Kakadu. While I am complimentary about work done (at great expense) on *Mimosa*, *Salvinia* and African ants, I go on to explain that the best rangers in the world cannot stop toads, cats, pigs, Black Rats, Gamba and Mission Grasses, Para Grass, Olive Hymenachne and *Salvinia*. All of these are uncontrollable in Kakadu (as they are everywhere else) and most are spreading.

I also add that because of the history of the collapse of traditional Aboriginal burning, the rise and fall of buffalo and the rise and rise of speargrass, that an appropriate fire regime for Kakadu is probably unachievable under the prevailing conditions.

From here on the presentation focuses on how the Director of National Parks is seeing and dealing with the situation as reflected in his Annual Report of 2011. The presentation looks at the species chosen by “the Park managers” for special conservation effort to *“determine whether viable populations of selected significant species have been maintained.”*



Australian Government
Director of National Parks



Director of National Parks

Annual Report 2010–11



From the Director's Annual Report:

“PA nominated 8 Kakadu species to determine whether viable populations of selected significant species have been maintained.”

The Kakadu 8:

1. The Northern Quoll (E)
2. The Brown Bandicoot
3. The Brush-tailed Possum
4. The Brush-tailed Rabbit Rat (V)
5. The Black Footed Tree Rat
6. The Pale Field Rat
7. The Flatback Turtle (V)
8. The Saltwater Crocodile

BUT, why choose those 8, when Kakadu is at the heart of the NT's threatened and endemic species crisis?

None of the chosen 8 are endemic to (or particularly significant to) the Kakadu area. Only 3 of them are formally threatened and those 3 are found right across the north. They are underlined.

Background note:

It was this section in the Director's Annual Report of 2011 which inspired me to prepare the presentation. Everything the presentation says hangs off this.

During the presentation I did not point out to the audience that it remains a mystery as to what different treatment these chosen 8 animals (excluding the ongoing croc and turtle work) get above all other animals in Kakadu. EG, exactly what attention does the Brustailed Possum or bandicoot get that a Planigale or Phascogale not get?

If the answer is only “**Biodiversity hotspot surveys. Database recording of any Incidental Sightings**” then these 8 are no better off than any other animal.

From the Director's Annual Report 2011

Example species – the bandicoot: -

Species	EPBC status	Monitoring	Actions	Trend	Flag
Bandicoot	No	Biodiversity hotspot surveys. Database recording of any Incidental Sightings.	Landscape unit-based fire management to improve habitat.	Population declining consistent with pattern of small mammal decline across north Aust.	Numbers falling ↓



Background note:

Here I randomly chose the bandicoot to explore what the Director's Report gives us in terms of "*monitoring, actions, trend and flag.*" Not much I would suggest.

The term "*Population declining consistent with pattern of small mammal decline across north Aust.*" reads like a deliberate smoke screen, intended to deflect attention away from the plight of the Kakadu endemics.

Obviously – if Kakadu endemics had been selected, then the Director's responsibility for their decline could not have been so easily deflected, as endemics do not exist elsewhere in north Australia. They only exist in Kakadu (and the adjacent Commonwealth IPA) and therefore are almost exclusively the responsibility of the Director of National Parks, and no one else.

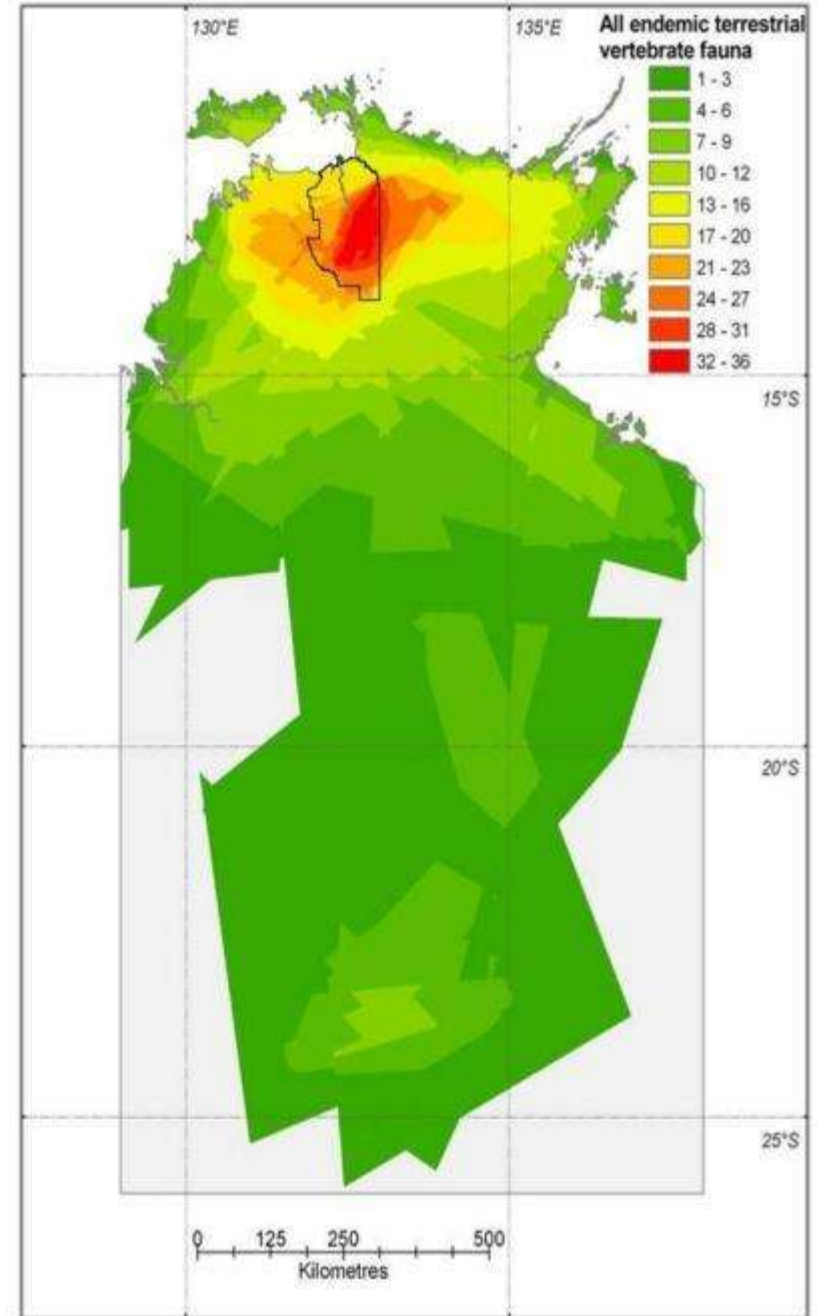
Under the heading "*Actions*" we are offered: "*Landscape unit-based fire management to improve habitat.*" I find this problematic given that all of the observed wildlife declines have occurred under Kakadu's prescribed burning regime. Unless the Park has implemented a radical new approach to fire in the past few years, then I would suggest that the "*Action*" of "*Landscape unit-based fire management to improve habitat.*" is part of the disease, not the cure. The West Arnhem Fire Abatement Scheme has positive outcomes, but no direct link can be made to this work and improvements in the populations of Kakadu and west Arnhemland endemic wildlife.

It is at this point that I begin to expose the futility of the "*monitoring*" and "*actions*" displayed in the Report.

I will argue that this approach is upside-down, because the priority should be about endemics.

Endemic plants and animals set Kakadu apart from anywhere else.

E.g. Rare and Threatened species can occur everywhere. Endemics can't/don't.

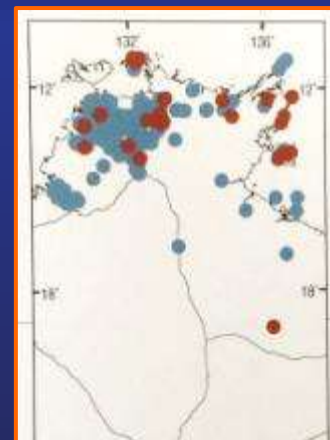


Background note:

In the previous screen I start to point to the concentration of endemics in Kakadu, as a precursor to looking at the counter intuitively nominated “Kakadu 8”

We will start by examining the 8 “*nominated*” in the Director’s report:

1 & 2 of the selected 8



*Note the wide distribution of these species.
Map sources: various*

The Northern Quoll

The Northern Brown Bandicoot

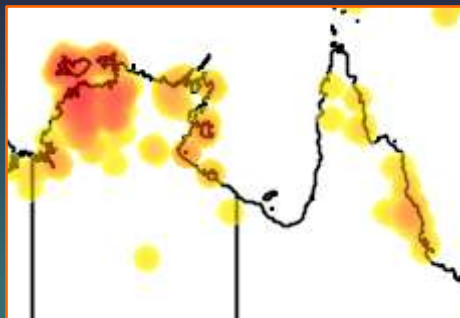


Photo G. Miles

Background note:

As I run through the nominated 8, you will see that none of them are particularly significant to Kakadu – especially when compared against the endemic species which I show later. This is underlined by the distribution maps.

The next screen shows a wayward young Quoll that hid in the Front Counter cash register at dawn one morning – only to be ‘caught in the act’ by the staff when they opened up that morning.

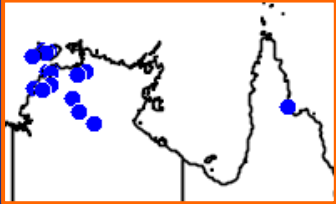
Here I verbally explain how common species like the Quoll used to be in Kakadu



The Great Spotty Quoll Heist

Photo G. Miles

3 & 4 of the selected 8 selected by the Director for specific attention



Northern Brush-tailed Possum

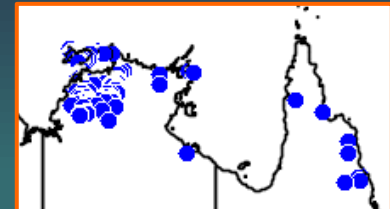
Photo I. Morris



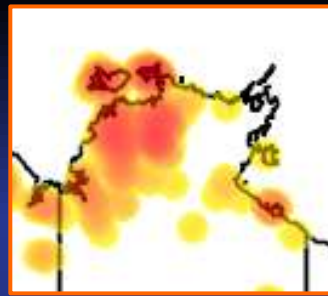
The much feared BFTR

Photo G. Miles

Again I point to the distribution maps which show that these species are not particularly significant to Kakadu.



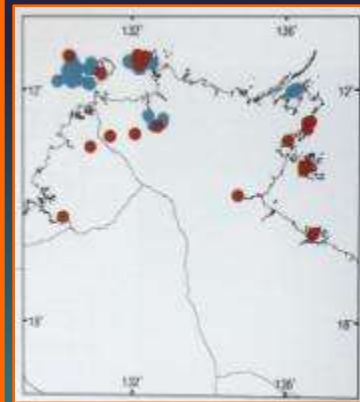
5 & 6 of the selected 8



The Pale Field Rat



Brush-tailed Rabbit Rat



Photos: Ian Morris

Background note:

At this point I raise the spectre of how the staff in Kakadu can seriously monitor a species which is gone, or very nearly?

I also discuss the uselessness of things like “Incidental sightings” of rare species such as the Brush tailed Rabbit Rat. If the odd one is seen (and hopefully the observer is competent to identify one), what does that mean? Almost nothing I would suggest. All that says is that the species is not yet extinct at that place at that time – nothing more.

I doubt that I would have the ability to identify something like a Pale Field Rat if it ran across the road in the headlights of a car.

Apart from very obvious species like the quoll, incidental sightings of many mammals by anything less than expert naturalists will always have a question mark hanging over the ID. Even Harold Cogger failed to recognise a juvenile Oenpelli Python in the 1970s!

7 of the selected 8

Flatback Turtle

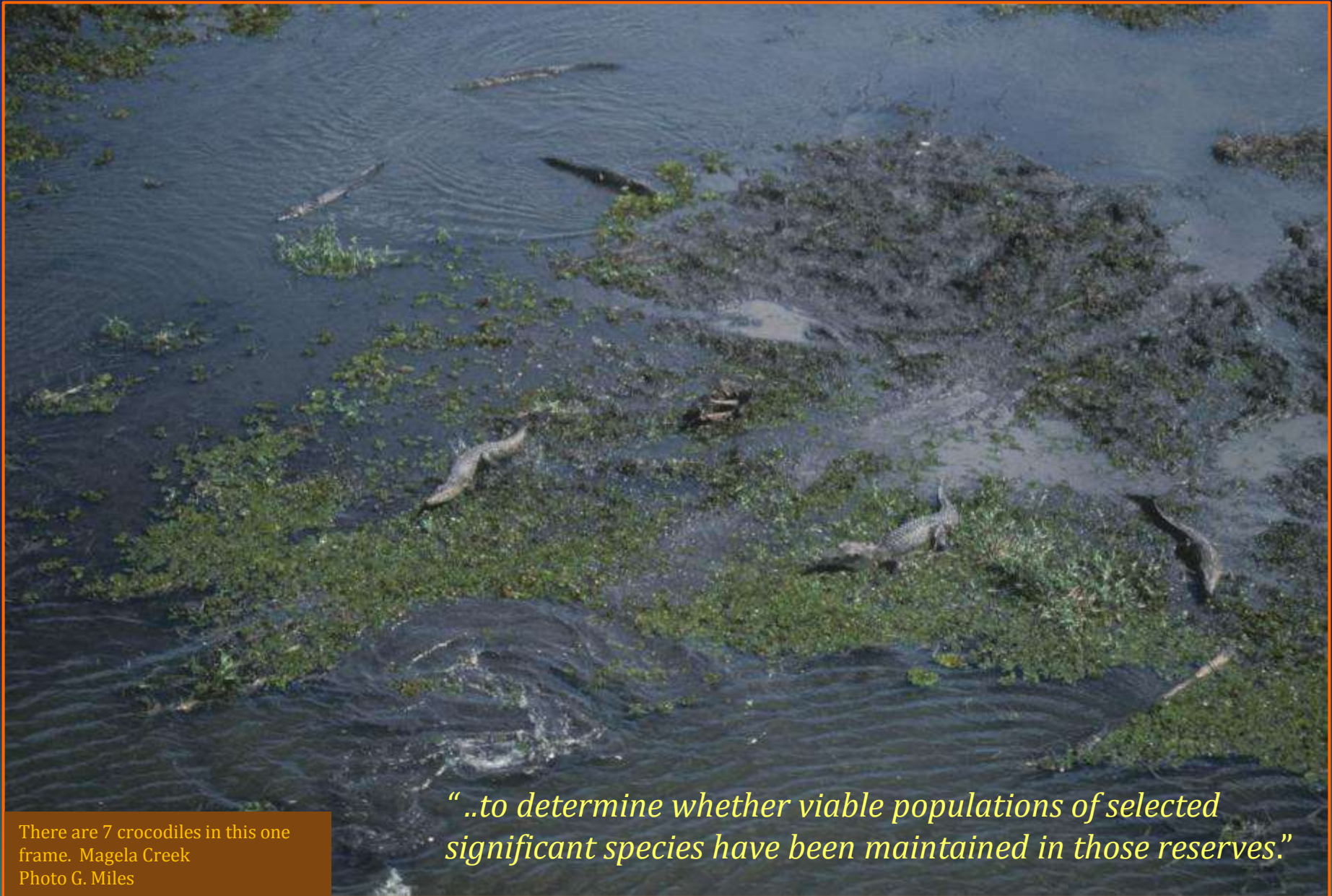


Photos G. Miles



Background note on Flatback Turtle monitoring:

Although the distribution map shows that the Flatback Turtle is not remotely significant to Kakadu, the monitoring is a good thing as it has been going on for a long time. There is a legal requirement under the EPBC Act for PA to work on Threatened Species which have a recovery Plan written for them.



There are 7 crocodiles in this one frame. Magela Creek
Photo G. Miles

“..to determine whether viable populations of selected significant species have been maintained in those reserves.”

Background note:

Why include the Saltwater Croc in a list of species which are being singled out for special conservation treatment? – i.e. *“to determine whether viable populations of selected significant species have been maintained in those reserves.”* The main problem with the crocodile is its hyper abundance. It does deserve attention in a public and staff safety context.

The photo above shows about 8 crocs in the one shot on Magela Creek.

Starting on the next page is the first of a number of screens which present species which should be singled out for conservation attention for a variety of reasons. These species come from the following 6 categories:

The differing categories are:

1. Threatened Kakadu species including Critically Endangered, Endangered and Vulnerable under NT or Fed legislation.
2. Threatened Species which are also endemic to Kakadu.
3. Species which are endemic to Kakadu
4. Threatened Species occurring in Kakadu for which Recovery plans have been written.
5. Species of high conservation value which may
6. species which are not endemic to Kakadu but which are poorly represented in reserves, or are generally uncommon, or which have a major part of their distribution within Kakadu. The Pied Goose could be one of these but I did not include it.

The significant Kakadu species: -

Species occurring in Kakadu which are listed as 'Critically Endangered' under NT and or Federal laws

1. Bare-rumped Sheath Tailed Bat
2. Northern Quoll (*made it to the Director's list*)

Species occurring in Kakadu which are listed as 'Endangered'

- | | |
|---------------------------|------------------------|
| 3. Gouldian Finch | 7. * Yellow Chat |
| 4. Loggerhead Turtle | 8. Olive Ridley Turtle |
| 5. Freshwater Tongue Sole | 9. Speartooth Shark |
| 6. Northern River Shark | 10. * The Giant Skink |

* Indicates endemic to the greater Kakadu region.

Species occurring in Kakadu which are listed as 'Vulnerable'.

* indicates endemic to Kakadu and the surrounding region.

- | | |
|---|---|
| <ul style="list-style-type: none">• 11. Red Goshawk• 12. Masked Owl• 13. Partridge Pigeon• 14. Water Mouse (false water-rat)• 15. Mertens Water Monitor• 16. Yellow Spotted Monitor• 17. Flatback Turtle (made it to the Director's list)• 18. Brush-tailed Rabbit Rat (made it to the list) | <ul style="list-style-type: none">• 19. Emu• 20. Australian Bustard• 21. Northern Shrike-Tit• 22. Brushtailed Phascogale• 23. Golden-backed Tree Rat• 24. * Arnhem Rock-rat• 25. * Yellow-snouted Gecko• 26. * Arnhem Leafnosed Bat• 27. * White-throated Grasswren• 28. * Oenpelli Python |
|---|---|

Background note:

I am not saying that **all** of the species in the Kakadu threatened list should be singled out for special treatment in the manner that the Director's chosen 8 are. Clearly it is not practical for Kakadu to take a special interest in obscure Threatened Species which occur rarely over much of north Australia.

But when their populations are largely found in Kakadu then they should be the subject of some sort of attention. Examples are the Partridge Pigeon and the Jabiru.

Brush Tailed Phascogales (V)



Background note:

Phascogales were common in Kakadu.

My daughter had three generations of Phascogales as pets. In the end we gave them to the Territory Wildlife Park when I was transferred to Christmas island to be the Government Conservator there. Phascogales make great pets. They are easy to keep and feed. They breed like rabbits. Kids love them and they thrive under the care of responsible children.

But because they are rare, no one is permitted to keep them.

I believe that they should be a common pet in suburban households and by dint of numbers, could be made extinction proof in this manner. But instead, we see a catastrophic loss of them in the wild and nobody knows whether or not they will become extinct in the north. Allowing people to keep and breed such animals cost almost nothing to the Government and makes the species extinction proof – at least in the foreseeable future. It also provide a pool of specimens that can be drawn upon for reintroductions or translocations.

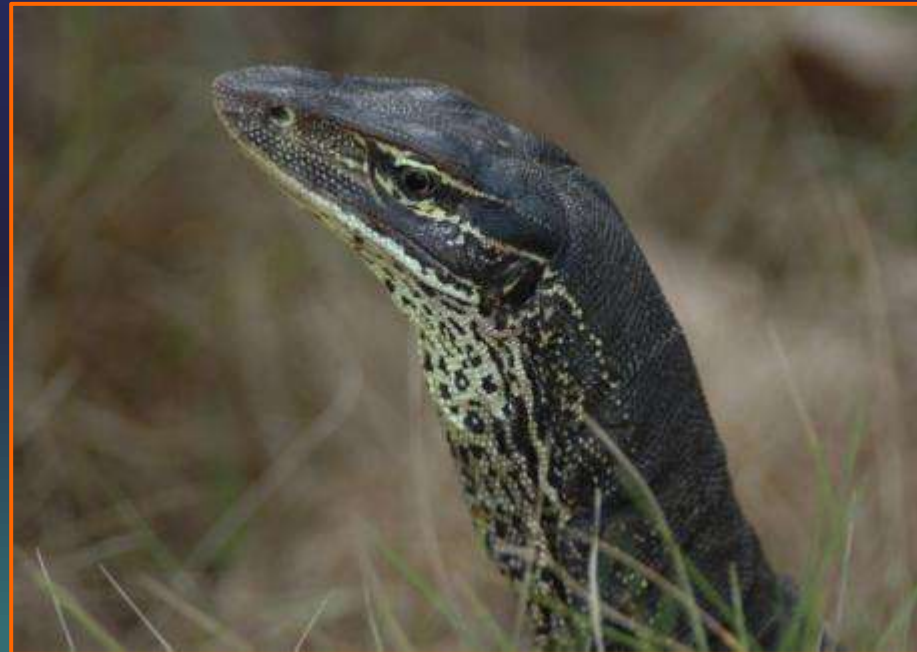
There is something seriously wrong in this situation. This is a state issue more than a Federal one.

Photos G. Miles



Mertens Water Monitor (V)

Yellow Spotted Monitor (V)



Background note, the politics of responsibility:

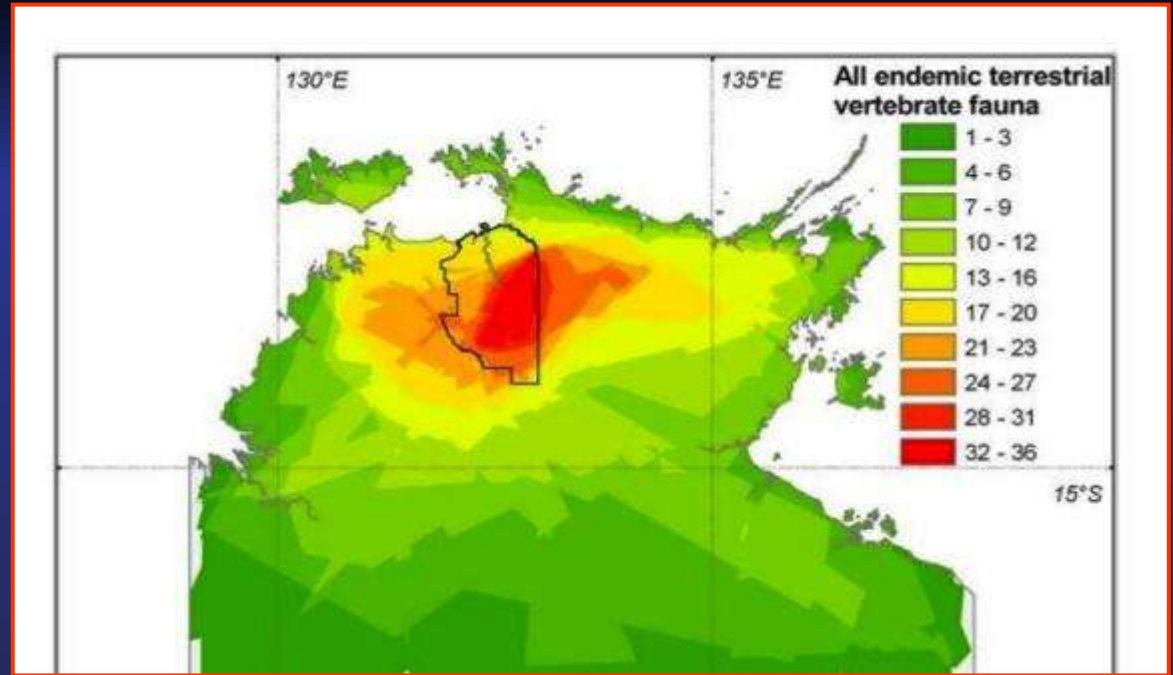
The maps on the next screen point to the overlay of NT and Commonwealth responsibilities. It appears that the heavy lifting of conservation work in this endemic rich region should be done by the Commonwealth. Kakadu and the neighbouring IPA offer Parks Australia a gilt edged opportunity to cloak itself in glory if only it acted with initiative and innovation.

Parks Australia could (at relatively little cost to the Crown) be a national leader in conservation innovation through embracing the private sector in mass volunteer monitoring schemes and the creation of in-situ and ex-situ captive breeding colonies. These two elements could then be integrated with in-situ predator and fire proof exclosures – maintained by volunteers and open to the public as a tourism attraction.

As an example, there are some ideal locations near the East Alligator River Ranger Station where autonomous sandstone outliers could be fenced off to safely contain breeding populations of a range of rare endemic species.

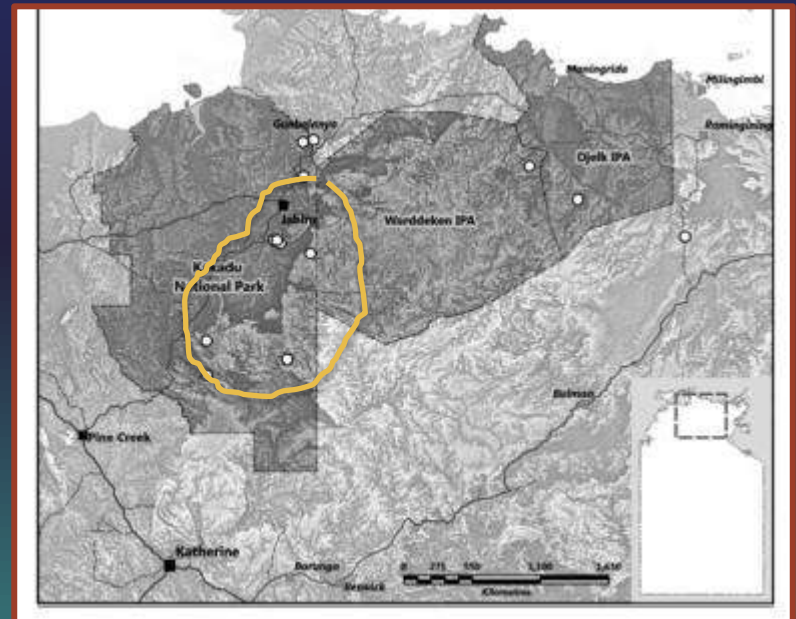
What follows is a look at the next category of significant species – the Threatened **AND** endemic. The distribution maps show their significance in the Kakadu context: -

Kakadu's conservation focus should mainly be about **endemic** and threatened species (where practical) – both animals and plants. The yellow line on the lower map reflects the bright red area on the upper map. It shows the extraordinary concentration of endemic species in Kakadu and the IPA.



In the 320 page Kakadu Plan of Management, the word “endemic” occurs just 3 times!

Where do NT Government responsibilities end, and “the Feds” begin?



Background note:

What follows is a look at the next category of significant species – the Threatened AND endemic. The distribution maps show their significance in the Kakadu context: -

Now to Kakadu's *threatened* endemics and what they look like –

Note the contrast between the vast distribution of the Director's chosen 8 and the following endemics.



White throated Grasswren (V)



Threatened endemics



Arnhem Rock Rat (V)



Arnhem Leaf-nosed Bat (V)

Photos G. Miles

Threatened endemics



Photo, Ian Morris

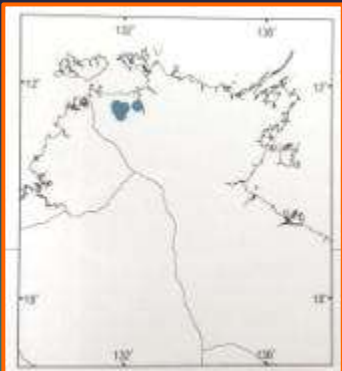
Giant Arnhemland Skink (E)



Yellow Snouted
Gecko (V)

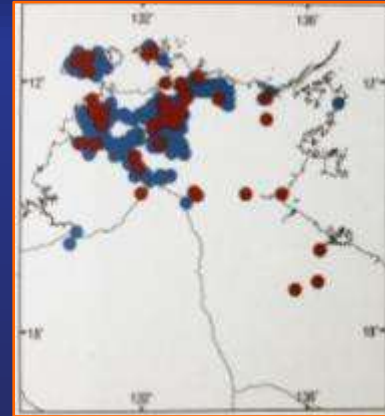


Photo, Alex Dudley

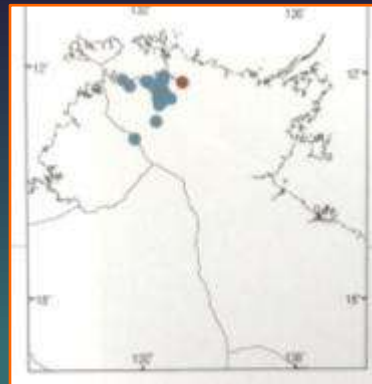




The Partridge Pigeon (V)



The Kakadu Canary –
Alligator Rivers race (E)

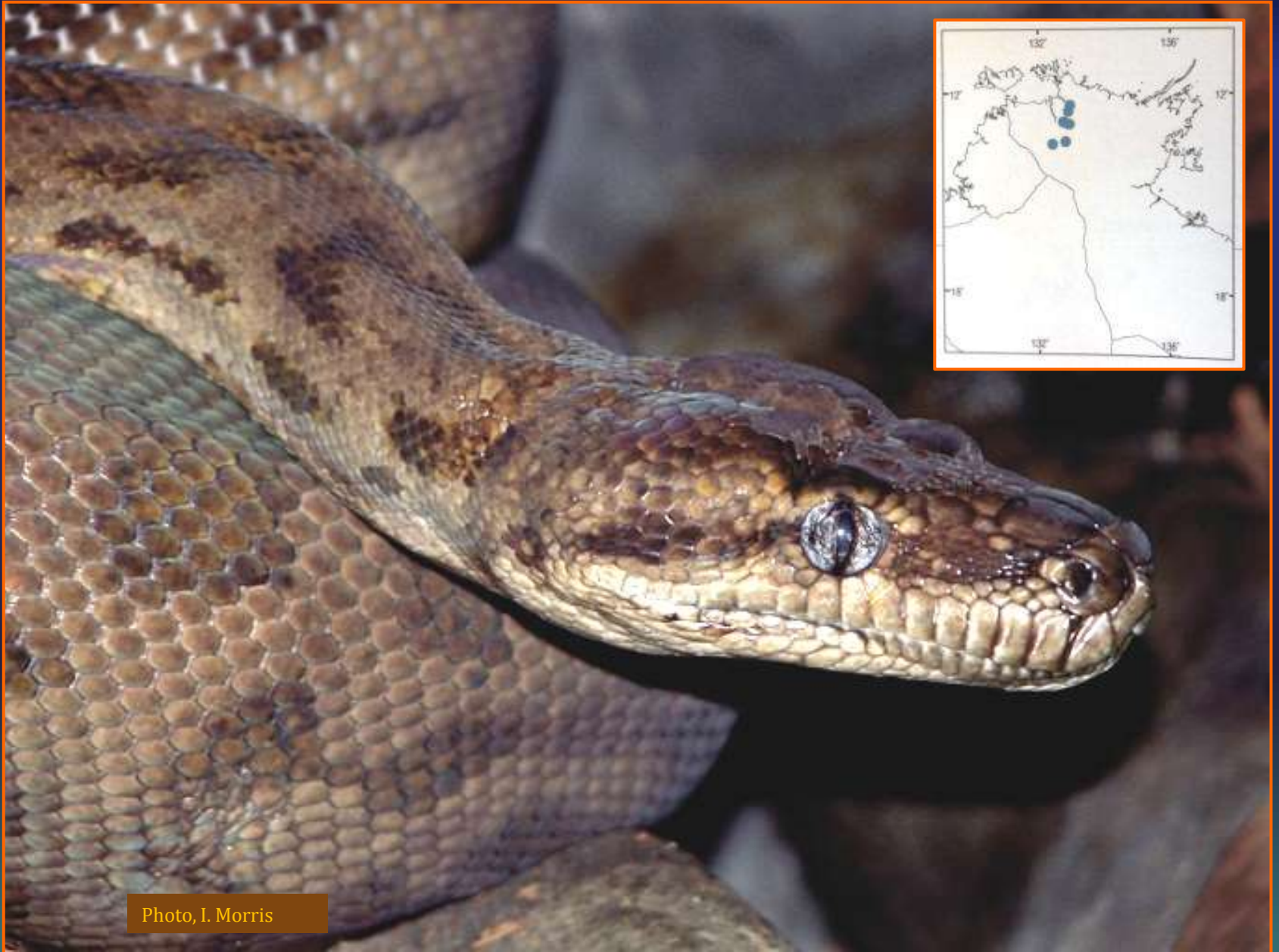


Background note:

While the Partridge Pigeon is not an endemic, its population centre in Australia is probably Kakadu. Therefore it is included here. The Jabiru could be included here as well, for the same reason.

The Kakadu Canary is of course the Alligator Rivers race of the Yellow Chat.

The Oenpelli Python (V)



Photo, I. Morris

Background note:

The Oenpelli Python is a prime topic of this presentation as it (along with the Giant Skink) is easy to keep and breed in captivity at virtually no cost to PA. This is because the private sector is keen to do it at their expense.

There are few rare species in Australia which can pay for their own 'extinction proofing'. The Oenpelli Python is one of them.

The next category are those species which are endemic (or near endemic) but are not formally listed as Threatened species.

One problem here is that so little is known of the population dynamics of this next grouping, that we do not actually know whether or not they might be eligible for Threatened species listing.

Species occurring in Kakadu which are endemic or near endemic – but not threatened

- 29. Black Banded Fruit Dove
- 30. Black Wallaroo
- 31. The Kapalga Free-tailed Bat,
- 32. The Arnhemland Pebble Mound Mouse
- 33. Chestnut Quilled Rock Pigeon
- 34. Rock Haunting Possum
- 35. White-lined Honeyeater
- 36. Kakadu Dunnart
- 37. Sandstone Antechinus

Skinks of the Genus *Ctenotus*:

- 38. *C. arnhemensis*,
- 39. *C. coggeri*,
- 40. *C. gagudju*,
- 41. *C. kurnbudj*,
- 42. *C. stuartii*
- 43. Masked Frog,
- 44. Jabiru Toadlet,
- 45. The Jeweled Gecko,
- 46. Knob - tailed Gecko (*Kakadu race*)



Black Wallaroo (male)

Photo G. Miles

Litoria personata
Uperolia arenicola
Oedura gemmata
Nephurus sheaii

Background note:

The numbers in these lists are there to demonstrate the high number of species which are more significant to Kakadu than those nominated in the Director's Report.

In the next category we look at those Kakadu endemics which are not Threatened – or at least as far as our meagre understanding of them suggests.

Some of the non-threatened (we hope) endemics ...

Chestnut-quilled Rock Pigeon



Banded Pigeon



Black Wallaroo (female)



Photos G. Miles

Background note:

As is the usual case, the numbers of these endemic animals is so low that they don't regularly turn up in **any** of Kakadu's monitoring or survey efforts – therefore we have no real idea of what is going on with these species

The same is the situation for the animals which appear on the next screen.



Kakadu Dunnart



Carpenter Frog

Non-threatened endemics (or near endemics) continued

Photos G. Miles



Masked Frog



Masked Frog

More non-threatened endemics....

Ctenotus coggerii.
One of 14 species of *Ctenotus*
in Kakadu!



Photo, Alex Dudley



Photo G. Miles

Knob-tailed gecko
(Alligator River race)

Background note:

The next category are animals of high conservation value which occur in Kakadu.

Some non-threatened (?) species of high conservation value occurring in Kakadu

- 47. Chameleon Dragon
- 48. Long tailed Rock Monitor (Kakadu race)
- 49. Black Palmed Monitor
- 50. Whites Monitor
- 51. Northern Blunt Spined Monitor
- 52. Pig Nosed turtle
- 53. Carpenter Frog
- 54. Giant Cave Gecko

Chelosania brunnea,
Varanus glauerti,
Varanus glebopalma,
Varanus baritji
Varanus primordius
Carettochelys insculpta
Lymnodynastes lignarius
Pseudothecadactylus lindnerii

Note: These lists total 54 vertebrates which are of significance to Kakadu, for one reason or another. These lists do not include those newly threatened species which have been recently hit by Cane Toads.



Another Kakadu non - threatened (?) species :-

Long-tailed Rock Monitor



Photo, Gavin Bedford

Background note:

The next and final category are those species occurring in Kakadu and which have Recovery Plans written for them. The obvious implication here is that animals such as the Partridge Pigeon and the Yellow Chat should have been chosen ahead of any of those on the Director's 8. There is probably a legal obligation to do so under the EPBC.

But I am not suggesting that obscure species with vast distributions should be chosen. Eg the *Bare-rumped Sheath-tail Bat*. Unlike the pigeon or the Chat, these are not significant in the Kakadu context.

The final category:

Federally listed Threatened Species which have Recovery Plans written for them (or have plans in preparation) and which occur in Kakadu.

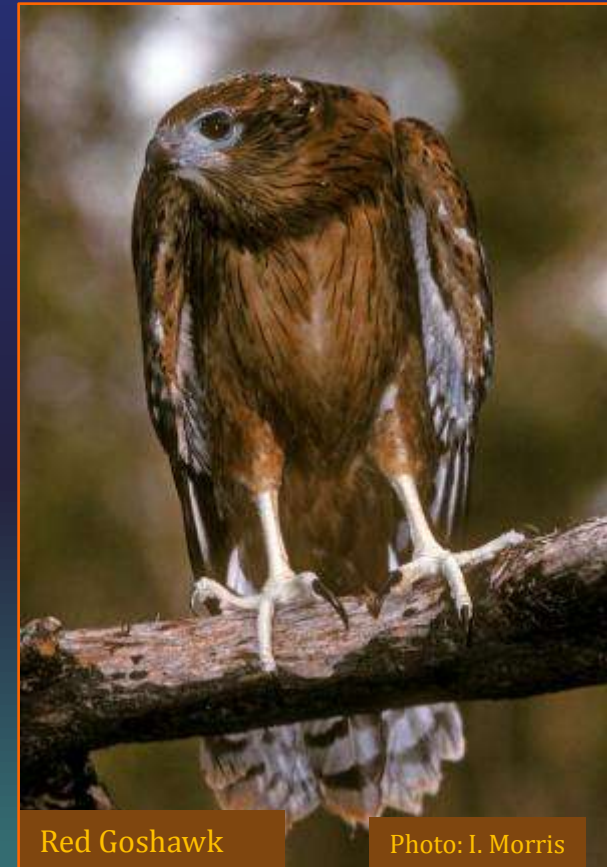
Of these, the Northern Quoll and the Flatback Turtle are the only 2 to make an appearance amongst the Director's chosen 8. Why not the Partridge Pigeon and the Yellow Chat. Both are very significant to Kakadu.

Those with Recovery Plans are the:

- *Bare-rumped Sheath-tail Bat*
- *Golden Bandicoot*
- *Golden-backed Tree Rat*
- *Northern Quoll*
- *Gouldian Finch*
- *Eastern Partridge Pigeon*
- *Crested Shrike Tit* and
- *Northern Masked Owl*
- *marine turtles*
- *Water Mouse*
- *Red Goshawk*
- *Yellow Chat*
- *Freshwater Sawfish*
- *Speartooth Shark*
- *Northern Rivers Shark*

The Kakadu 8:

1. The Northern Quoll
2. The Brown Bandicoot
3. The Brush-tailed Possum
4. The Brush-tailed Rabbit Rat
5. The Black Footed Tree Rat
6. The Pale Field Rat
7. The Flatback Turtle
8. The Saltwater Crocodile



Red Goshawk

Photo: I. Morris

It can be readily argued that other species are more “*significant*” in Kakadu than the Director’s chosen 8.

So make that 55 significant species. Of these, the Director chose just two very widespread species for conservation attention – the quoll and the turtle.

Even the **Jabiru** is significant in the Kakadu context.



Photo G. Miles

Background note:

The Jabiru is an interesting case in point. The photo on the preceding screen shows part of a group of 64 Jabirus gathered at one spot on the South Alligator River floodplain. That is a mind boggling number of Jabirus. They were there because a heavy deluge of rain at the end of the dry season briefly flooded a low spot on the plain. Large numbers of frogs were aestivating deep in the cracked soil and were unexpectedly pushed to the surface by the water. The birds were onto them within hours.

The world's population of Jabirus is focussed on north Australia. Within north Australia the main concentration of them is on the coastal plains of the Top End. On these plains, the main population of Jabirus is probably in Kakadu. On the day that this photo was taken it is likely that we were seeing the worlds biggest concentration of this magnificent bird. That is truly extraordinarily at the global scale and yet – the Jabiru was not nominated by the park managers for whatever it is that the nominated 8 species get, which other Kakadu animals don't get.

This ends the list of categories of significant species from which the nominated animals could have been chosen. Of these 55 species, **any** of them would have been a better choice than the Brush-tailed Possum, the Brown Bandicoot, the Plains Rat or the Black Footed Tree Rat.

From this point on we examine what practical steps PA is taking in response to the dramatic wildlife declines in Kakadu.

Parks Australia's reaction to wildlife loss:

1. **Habitat management at the landscape scale.** We all know that this is not working.
2. **Fire plot monitoring.** (NT P&W program) This provides nothing meaningful for Kakadu's endemic animals. Monitoring in itself saves nothing. *It's what happens next that counts.*
3. **Hotspot Surveys (an NT P&W scheme)** These give a localised snapshot of one place, at one moment. They may be important to indicate if a species is not extinct at that place and time, but that is all they do.
4. **Island Ark schemes.** (Initiated by Ian Morris. A NT P&W scheme) Important for one of Kakadu's mammals, but of no use to any of Kakadu's endemics.
5. **Toad training for Quolls.** (A Sydney University experiment) May assist one species.
6. **Marine turtle surveys.** (A Parks Australia program) Useful for the Flatback Turtle data base. Conforms with the Federal Recovery Plan. Provides an overview of life on Field Island.



Raptors monitoring a Quoll

Photo G. Miles

Predator proof enclosures and captive breeding should be a core part of this otherwise ineffectual mix.

Background note:

The reference in the preceding screen to captive breeding and predator proof enclosures comes from a growing awareness that the long term prognosis for wildlife in north Australia is bleak. So grim in fact, that it will take radical intervention in the form of widespread captive breeding in the private sector coupled with predator and fire proof enclosures to stem the rise in extinctions in the north.

I have been a land manager in the north for more than 30 years and I am convinced that the primary environmental destructors – particularly invasive species and fire - cannot be meaningfully controlled within current or future management capabilities. The only way to prevent an inevitable wave of extinctions will be captive breeding and enclosures working together alongside conventional methodologies (which we know are not working on their own.)

We recognise the excellent conservation work being done by the Australian Wildlife Conservancy in the Kimberley. But I believe that the successful methods which they are using in the Kimberley may not work so well in Kakadu. In any event, I cannot see the Kakadu Board of Management throwing the keys to Kakadu to the AWC (or similar) anytime soon. Thus we have to work with what we have, and captive breeding of Kakadu endemics, in combination with a series of habitat specific in-situ enclosures is the only practical hope for our endemics – at least at the ‘insurance’ level.

The presentation now turns the spotlight on the Monitoring Myth.

Parks Australia are mainly relying on Monitoring

But is 'monitoring' the Government's conservation "Cargo Cult"?

Kakadu's monitoring comes in three layers:

1. P & W Biodiversity Team's monitoring of the old Fire Plots (includes plants and animals)
2. Biodiversity Hotspot surveys and
3. Incidental sightings.

In terms of endemic and threatened species in Kakadu, none of these are of any real use – why? Because there is no **"What Happens Next."** plan.



Photo G. Miles

An analogy would be a critically ill patient is in hospital, and the life support equipment is showing his condition as deteriorating. So the Doctors attach more devices, but do not administer any treatment. All the while they tell the anxious family not to worry as "We are monitoring his condition closely."

How to monitor a Black Footed Tree Rat – take lots of notes and carry lots of band aids.

Background note:

“Don’t worry, we are monitoring.”

“And if we find that species are in decline – we will monitor harder.”

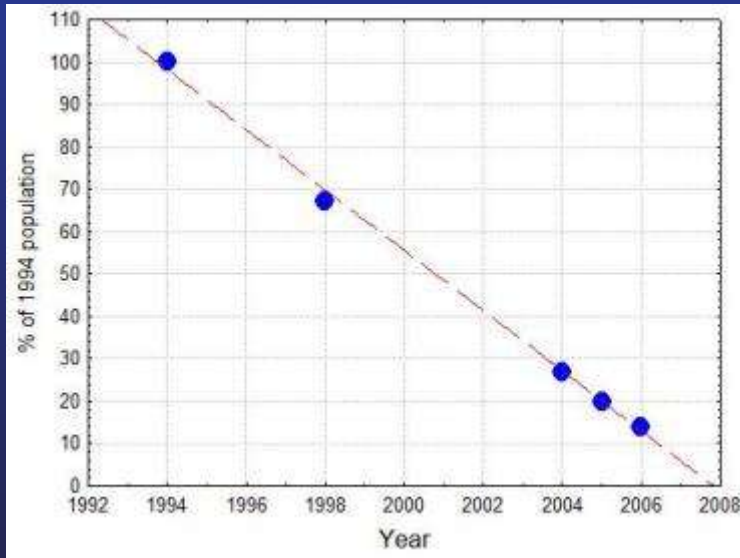
Without going into great detail here – suffice to say that **none** of Kakadu’s monitoring or surveying is going to save any species. Simply put, all that monitoring in Kakadu is going to do (at best) is replicate the trajectory of the C. I. Pipistrelle. In other words, *“monitor to extinction”*.

It appears that when monitoring shows a continuing decline in a species in Kakadu, Parks Australia have no plan in terms of what to do next. I contend that the situation is so bad in Kakadu that **none** of the monitoring or surveying is of a quality or quantity that is capable of demonstrating any meaningful trend in the populations of rare or endemic wildlife in the first place. It may do for the more common and widespread species, but not the rare and endemic.

It is paradoxical that the monitoring of small and relatively insignificant reptiles on Christmas Island does seem to be of the quality required to provide meaningful information. Why can’t this be done in Kakadu with large and significant reptiles – and other rare endemics?

This presentation now looks at the Christmas Island scenario to provide a comparison between what appears to be a relatively good response to a crisis on the Island, in stark contrast to what is happening in Kakadu. It is truly bizarre that so much Government effort and money is going into the issue of 3 or 4 small reptiles in the Island, while Parks Australia are clearly preventing the efforts of the private sector from taking similar actions in Kakadu (the Oenpelli Python) at virtually nil cost to the Government!!

Effective monitoring – The Christmas Island example



“Best estimates are that Pipistrelle abundance declined by 33% between 1994 and 1998, 60% between 1998 and 2004, 25% between 2004 and 2005, and 30% during 2006. The trend is steady and perfectly linear. A regression model predicts that the Pipistrelle will become extinct in 2008.”

In fact it became extinct on the 26th or 27th August, 2009.

Christmas Island National Park is another Parks Australia park.

Like Kakadu, they had no **“What’s Next?”** plan.

(Photo: Chris Tidemann)



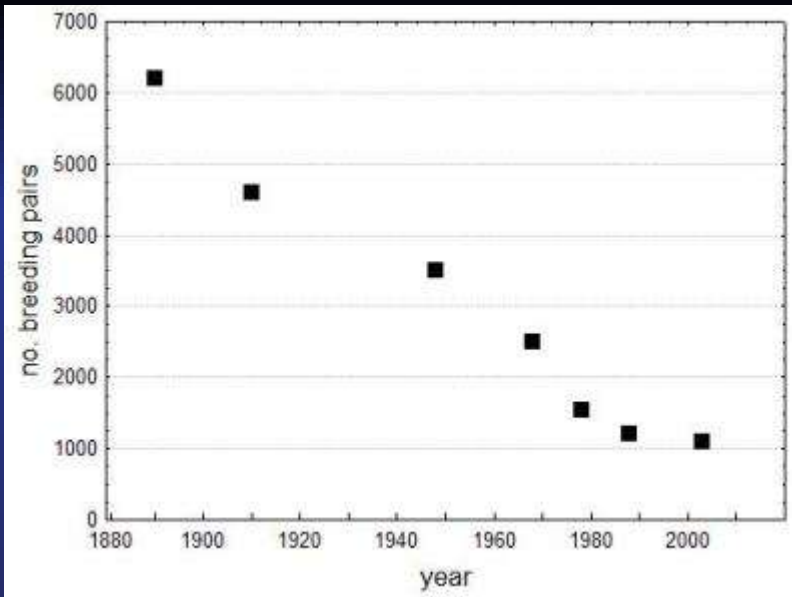
Background note:

From this point, the presentation repeats the assertion that Parks Australia (and all other park services around Australia) have no idea what to do at the 'palliative care' end of conservation of Threatened Species. Sadly, the palliative care scenario is going to become increasingly common in the years ahead, and we all need to get this issue sorted. The contemporary (and misguided) swing of Government policy away from single species rescue, to the more nebulous and unaccountable 'habitat scale conservation' is like engaging reverse gear when a bulldozer is coming at you from behind.

My extensive land management experience tells me that in general terms many hundreds of millions of dollars can be injected into landscape scale habitat management, with very little tangible benefit.

For the most part - in north Australia - the horse has bolted!

The next screen showing the C. I. Frigate is another example where PA has no "What's Next" plan. But with this species (being an oceanic wanderer) I have no idea what the "What's Next" might be. Probably a nice wake!



Chronology of decline in Christmas Island Frigate, based on assessments of the number of breeding pairs.

Tragically, there is no **“What’s Next”** plan.



Flying to oblivion

Photo G. Miles

Background note:

The next screen looks at the effective and targeted work being done on C. I., and contrasts it with the meagre and scattergun style work being done in Kakadu.

Yet Kakadu is facing a crisis which dwarfs that on the Island.

Case study: Christmas Island National Park— saving species from extinction

Zoologist Mike Smith arrived on Christmas Island in November 2008, fresh from an academic career at Melbourne's Arthur Rylah Institute — and what was to prove an extremely useful post-doctorate, breeding frogs in the USA.

He found a park community grappling with the imminent extinction of the pipistrelle bat and quickly concluded that the island's reptiles were also in imminent risk of dying out.

Within weeks Mike and team members Brendan Tiernan and Dion Maple made some great discoveries. On the island's rugged far south-west tip, Mike found a Lister's gecko, thought to be extinct and Brendan discovered a coastal skink last seen in 2004.

Dion found a Christmas Island blind snake on the western central plateau, another species not seen for decades

Inspired that all was not lost for Christmas Island's threatened ecosystems, Mike and his team began devising a captive breeding program for the nationally vulnerable Lister's gecko and dramatically declining blue-tailed skink. It was no mean task on a remote island with no scientific labs, no huge hardware store and where the ships bring supplies only every month or two if you're lucky.

With remarkable ingenuity, the team scrimped and scrounged and experimented. At the rundown old mine rail station — the 'Pink House'— they took over an old gazebo, stripping back panels to mimic the dappled light of a forest habitat, fencing against robber crab attack and building cages from abandoned steel. A camelback – a camping watering bladder – provided humidity and drinking water and when that failed, Brendan 'borrowed' drips from the medicos at the island's hospital. When the old recycled metal began to deteriorate, the team designed new perspex and aluminium cages, this time waiting for supplies from the mainland.



Christmas Island National Park is working with Sydney's Taronga Zoo on a captive breeding program to save the island's reptiles. Left: Christmas Island's blue-tailed skink. Photo: Parks Australia. Right: Lister's Gecko. Photo: Parks Australia

On Christmas Island there is effective monitoring of threatened reptiles going on – under very difficult and expensive conditions, but not in Kakadu? Why?

Herpetological Conservation and Biology

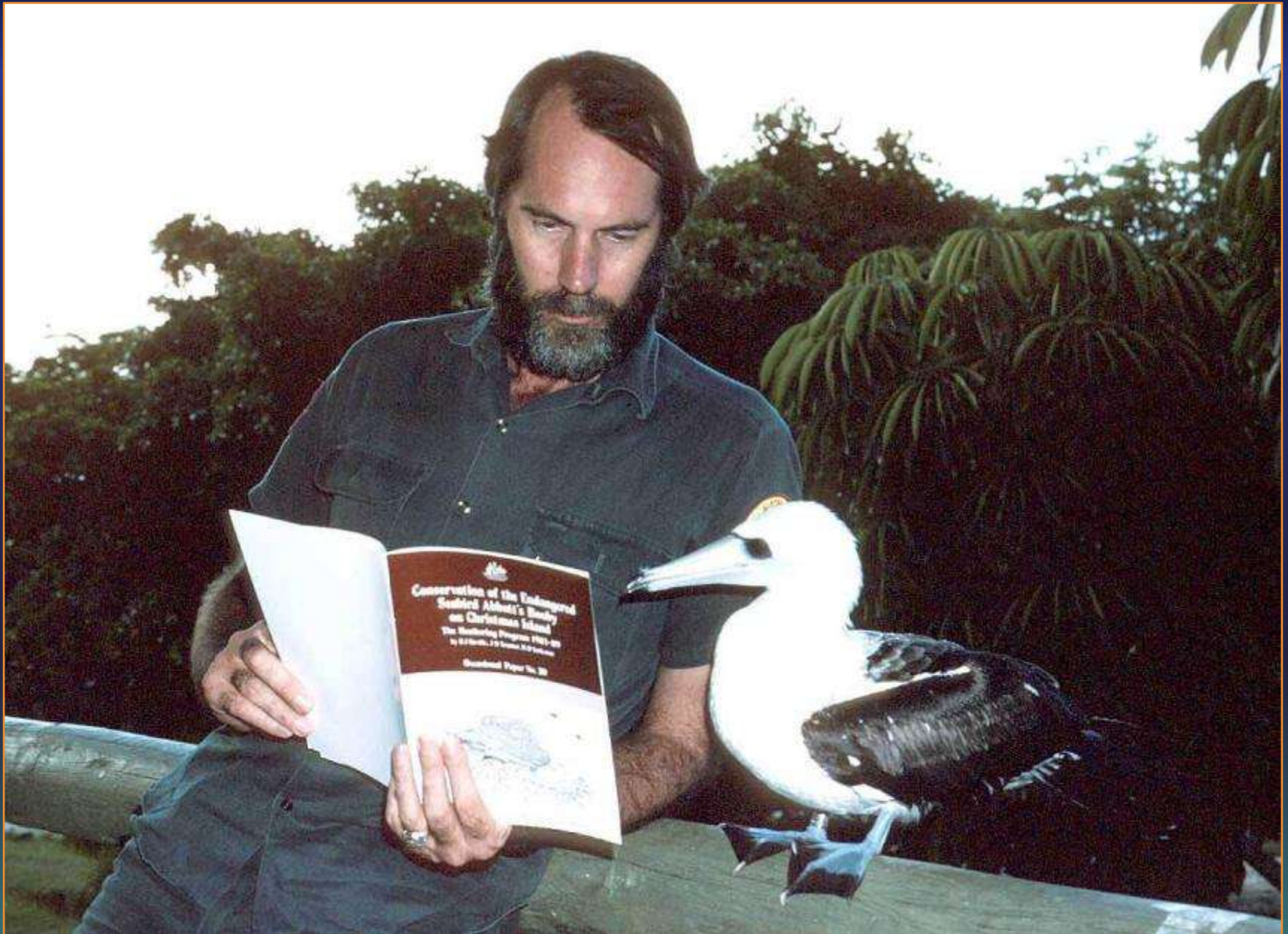
Published: 10 September 2012.

AN OCEANIC ISLAND REPTILE COMMUNITY UNDER THREAT: THE DECLINE OF REPTILES ON CHRISTMAS ISLAND

MICHAEL J. SMITH, HAL COGGER, BRENDAN TIERNAN, DION MAPLE, CHRISTOPHER BOLAND, FIONNUALA NAPIER, TANYA DETTO, AND PETER SMITH

There is also a “**What's next**” strategy in place (up to a point). Captive breeding is happening for threatened reptiles on Christmas Island – why not do the same for Kakadu reptiles, where there is a more practical and achievable end point? Unlike the C. I. lizards, Kakadu reptiles are inside Australia's quarantine barrier and they are native to the continent.

Let me teach you about monitoring



Background note:

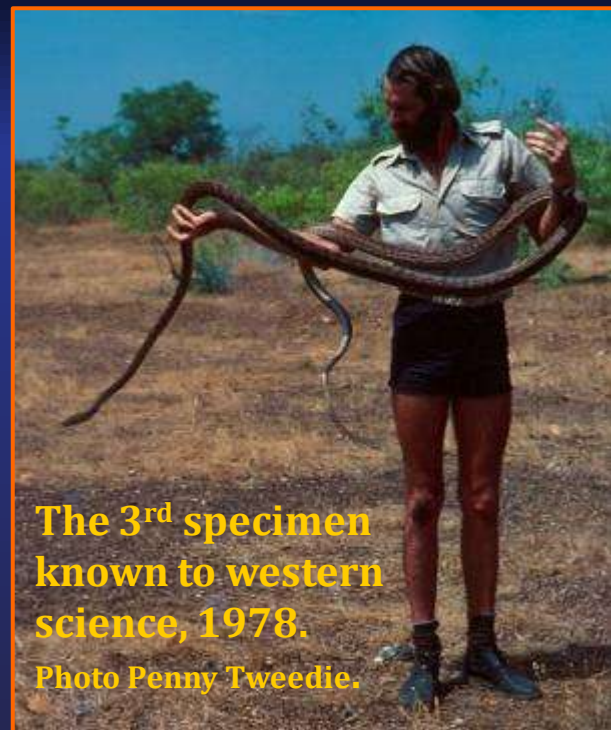
Previous screen provided for humour. It shows Greg Miles training an Abbotts Booby on the finer points of being an Endangered Species.

The presentation now turns to the two Kakadu case studies concerning the Oenpelli Python and the Arnhemland Giant Skink.

It is important to remember that this presentation highlights just two species where there may be as many as 16 species in Kakadu which urgently need to be placed into a “safe house” captive breeding situation and/or within fire and predator proof exclosures.

A tale of two pythons. A big part of the answer to “What’s Next?” is captive breeding.

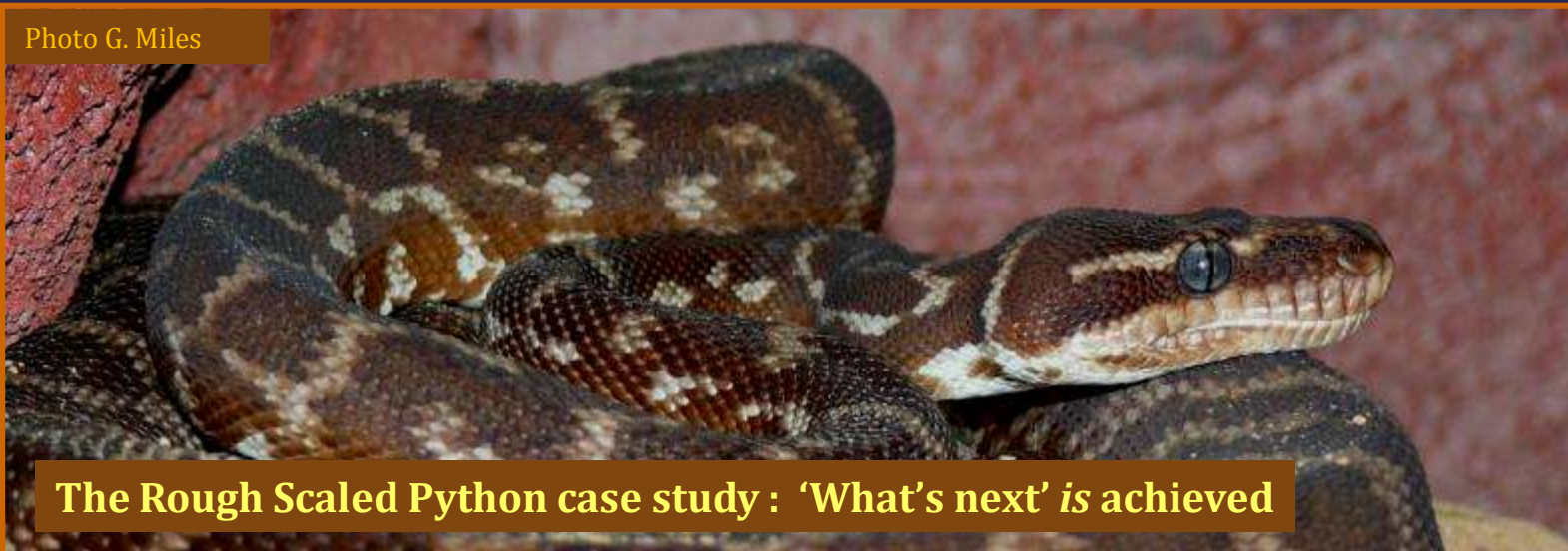
Photo G. Miles



The 3rd specimen known to western science, 1978.

Photo Penny Tweedie.

Photo G. Miles



The Rough Scaled Python case study : ‘What’s next’ is achieved

Background note:

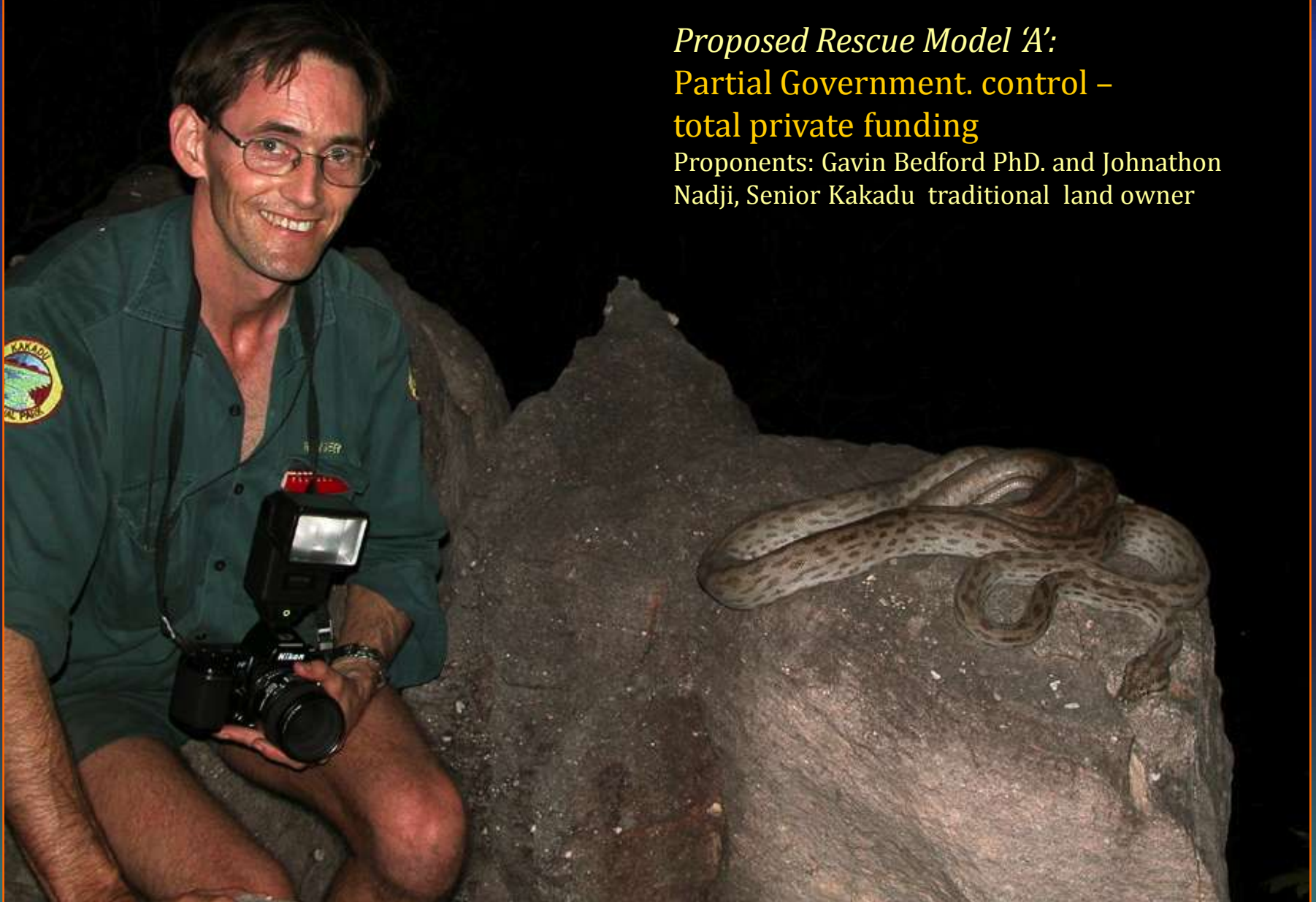
The Rough Scale python was first taken into captivity by the Australian Reptile Park at Gosford about 10 years ago.

This python is the second rarest python in Australia, the Oenpelli Python being the rarest. With the backing of Prof. Rick Shine, the Australian Reptile Park at Gosford NSW, was able to convince the WA authorities to collect 10 specimens of this python from their restricted distribution in the valleys of the Kimberley coast. It took 5 years of persistence to get the approval.

Now, 10 years on there are a couple of thousand Rough Scale Pythons thriving in captivity in the hands of private reptile enthusiasts. Their commercial value has dropped dramatically in line with 'supply and demand' principles. Meanwhile the Cane Toad is arriving on the doorstep of the remaining wild Rough Scale Pythons. Experts note with alarm that this python eats frogs. Toads may well wipe this species out in the wild in the coming years – but it will be secure in captivity. In effect, it is currently extinction proof and will remain that way into the foreseeable future.

In addition, since this species can now be easily bought for as little as \$500, there is no longer any incentive for reptile poachers and traffickers to make any attempt to take specimens from the wild. **This is the reverse of the situation with the Oenpelli Python which – as long as it is locked up in Kakadu - will remain at risk of extinction due to changed environmental parameters and will also continue to be a prime target for poachers.**

The Oenpelli Python case study – “What’s Next” not achieved



Proposed Rescue Model 'A':
Partial Government. control –
total private funding

Proponents: Gavin Bedford PhD. and Johnathon
Nadji, Senior Kakadu traditional land owner

Background note:

The above picture shows Alex Dudley (Australian herpetologist) posing beside an Oenpelli Python at Maguk in Kakadu. He had been a Seasonal Ranger (and reptile enthusiast) for ten years before he saw his first one in the wild. And this was despite regularly searching for them at known python haunts. This gives a clue to how rare they are.

Parks Australia has no data on the abundance of this species, but they claim that there is no cause for alarm. On the other hand, Gavin has been assiduously gathering data on the species. Between himself and another reptile enthusiast living at Oenpelli, Gavin can document more than 2,000 hours of qualified people searching in prime habitat with only one Oenpelli Python being found. This points to a remarkable decline in the species which used to be seen in low but regular numbers back in the 1970's and 80's. By way of comparison, it would be very telling if Kakadu was asked to produce its data on the python.

The next screen points to the total lack of action on this species by both park agencies in the NT, despite a status report being written for it in 2007 by the NT Parks and Wildlife biologists. The point here being that at the same time that Parks Australia was going to some effort to place insurmountable barriers in front of Gavin's python proposal, they were doing nothing themselves to strengthen the conservation security of the species. And this despite the fact that the project had been approved by the Kakadu BoM.

The recommendations of the NT status report are shown next.

The Oenpelli Python case study continued.

The 2007 Oenpelli Python *Status Report* recommendations - from the book, **LOST**:

“Research priorities are to:

- (i) examine the impacts of fire regimes upon the Oenpelli python directly, or its preferred prey species;*
- (ii) attempt to derive some estimate of relative abundance, habitat associations and total population size;*
- (iii) collate, where appropriate, traditional ecological knowledge of this species held by Aboriginal landowners in the stone country.*

Management priorities are to:

- (i) establish a monitoring program for this species, particularly with reference to its response to fire management;*
- (ii) continue to deter illicit reptile collectors.”*

What Gavin wants to do - at no cost to the Government – is now to be funded by the taxpayer, in the form of “Biodiversity Hotspot Surveys.”

Background note:

It is pertinent to dwell for a moment on the last recommendation:

(ii) continue to deter illicit reptile collectors.”

Not only have Parks Australia not implemented any of the *Status Report* recommendations (and neither has the NTG) but a strong case can be made that the current position of PA is doing the very opposite with regard to “*detering illicit collectors*”. By preventing any specimens of the python entering the private reptile keepers community, the Oenpelli Python continues to be the Holy Grail of Australian reptiles. Because it does not exist legally in any collection in Australia, its potential value is very high. This provides the incentive for illegal collectors to do raids into Kakadu and take any pythons they can get (as well as any other interesting reptile while they are there). PA’s policy position provides a powerful incentive to steal.

Clearly we have seen the alternative with the commercial (and conservation) trajectory of the Rough Scaled Python. This is what we want to achieve with the Oenpelli Python. One would have thought that it is what PA wants to achieve as well. Particularly as it would be at nil cost to PA.

The next screen looks at the PA permit conditions that caused the collapse of Dr. Bedford’s efforts after 8 years, and with the Kakadu Board approving his application twice!! It would be interesting to see how Kakadu Management are going to explain Gavin’s withdrawal to the Board.

The permit conditions that killed the project:

Condition 34) "The permittee must not use the pythons collected under this permit, or their progeny, for any commercial purpose unless the permittee is granted a permit for commercial use of native wildlife in accordance with the management plan."

Condition 36) "All pythons collected under this permit can only be bred or cross-bred with other pythons collected under this permit."

Why must it be so hard - to collect 4 snakes for a self funding conservation breeding project?!

Current policies and practices in Kakadu have created an udeal situation to encourage poachers and animal traffickers

Background note:

Parks Australia have stated that they did not issue Gavin with a Commercial Use permit (for which he originally applied) because the NT G had placed a moratorium on this species pending the writing of a management plan. This is fair. But the NT G subsequently produced that plan named the “*Sustainable use Program for the Oenpelli Python*” on 1 December 2010. Their plan supported the commercial use of the Oenpelli Python with some caveats – all of which Gavin’s proposal met. The NT G then issued Gavin with a permit to take pythons off NT land (Arnhemland), for commercial purposes. At the instant that the management plan was released, the need for and purpose of Kakadu’s moratorium on the Oenpelli Python evaporated - in line with the NT G’s moratorium.

But it was on the 24th December 2010 that Gavin was notified by Parks Australia of the moratorium and advised to change his application from “Commercial” to “Research”. In other words, it appears that 3 weeks after the reason for the moratorium was extinguished, Gavin was informed of the moratorium and asked to change his project from its intended purpose to something for which it was not intended.

Now that the NT G has abolished the moratorium on this species, it is logical that PA should issue a permit to Gavin’s original application to “take pythons for **Commercial** purpose” - as was approved by the BOM in September 2010.

There appears to be no logical reason that this would not happen, particularly since it would satisfy the decision of the Board and satisfy the requirements of the management plan (*Sustainable use Program for the Oenpelli Python*) produced by the NT G.

The P&W permit -

So far, it has cost the private sector \$20,000 to get this one snake out of the bush and into a 'safe house'. But it is effectively useless for the conservation of the species, and made useless by Government policy. This is the single result of more than 2,000 logged hours of searching.



Photo G. Bedford

As far as we know there are no breeding Oenpelli Pythons anywhere in the world. If they disappear from the wild – they have gone forever.

Background note:

Now we turn our attention to the second Kakadu case study – that being a rescue plan for the Giant Arnhemland Skink.

This plan offered a different model to that of the python. It was hoped that if the python model did not succeed, that this one might.



This skink was photographed by a tourist at the Moline Rock hole in 2010. We are hopeful that it is still there.

But 5 years on and there is no monitoring, or any other form of conservation intervention.

To the best of our knowledge there are no representatives of this species in captivity anywhere.

The Giant Skink proposal:

Proposed Rescue model 'B':
total government control –
total government funding.

Proponents: Prof. Sam Sweet (UCLA) and Greg Miles (Darwin)

In 2007 the NTG book *Lost* said:

“Current knowledge is insufficient to provide much guide to management. Research is required to more precisely delineate distribution, habitat preferences, ecology and to identify threatening factors. This research should also provide a baseline for ongoing monitoring.”



Background note:

The next screen lists the people to whom I have written concerning this proposal. They have all backed it. Amongst them are people who have who have a great deal of experience in captive breeding of threatened reptiles.

Eric Pianka is the English speaking world's leading expert on lizards of the world, including Australia.

Sam Sweet enjoys a similar reputation at the global level and, in addition, is highly experienced in lizard studies in Kakadu.

List of people supporting the Giant Skink plan

Alex Dudley	Field biologist and co-surveyor for <i>B. obiri</i> project in 2004
John Woinarski	Former NTG Principal Biologist NT. Eureka Prize winner and nominee of the legal status of <i>B. obiri</i> .
Barry Cohen	Former Federal Minister for the Environment
Ian Morris OAM	Foremost Kakadu and north Australian naturalist
Dr. Gavin Bedford	Professional herpetological biologist, Darwin
Prof Graham Webb	Owner, Crocodylus Park, Darwin
Prof Keith Christian	Charles Darwin University
Prof Gordon Grigg	University of Queensland
Prof Mike Archer AM	UNSW Leaders in Science
Nicolas Rothwell	Features Writer, "The Australian"
Prof Sam S. Sweet	Department of Ecology, Evolution and Marine Biology University of California, Santa Barbara, Calif. USA
Dr Peter Harlow	Curator of Reptiles, Taronga Zoo, Sydney NSW
Dr. Glenn Shea	Faculty of Veterinary Science, University of Sydney
Dr Rosalie Chapple	Visiting Fellow & Sessional Lecturer, UNSW Research Scientist for the Rural Development and Research Corporation
Dr George Wilson	MVSc Ph D, Adjunct Professor Fenner School of Environment & Society
John Weigel AM	Director, Australian Reptile Park, Gosford, , NSW
Anthony Stimson	Wildlife Researcher and educator, Sydney
John Sinclair	Environmental activist and 1993 Goldman Environmental Prize winner

There are many more

The Kakadu response to the Skink proposal: -



This photo shows a dead Giant Skink at Twin Falls. It shows all the signs of having been killed by a toad. If in fact they do eat toads that they are a doomed species and could disappear very quickly.

Stop press!! 9 November 2012 – the Kakadu Board has indicated that the species will be targeted in the next round of hotspot surveys. The BoM stated that they will **not** support a captive breeding program for the species as proposed (10 individual animals) as *“the number of individuals required to maintain a viable population would be far greater than what has been suggested in your proposal.”* But they **will** support a trial captive breeding program for 4 animals.

Background note:

The letter from the Chair has a number of problems for us which will be raised in due course.

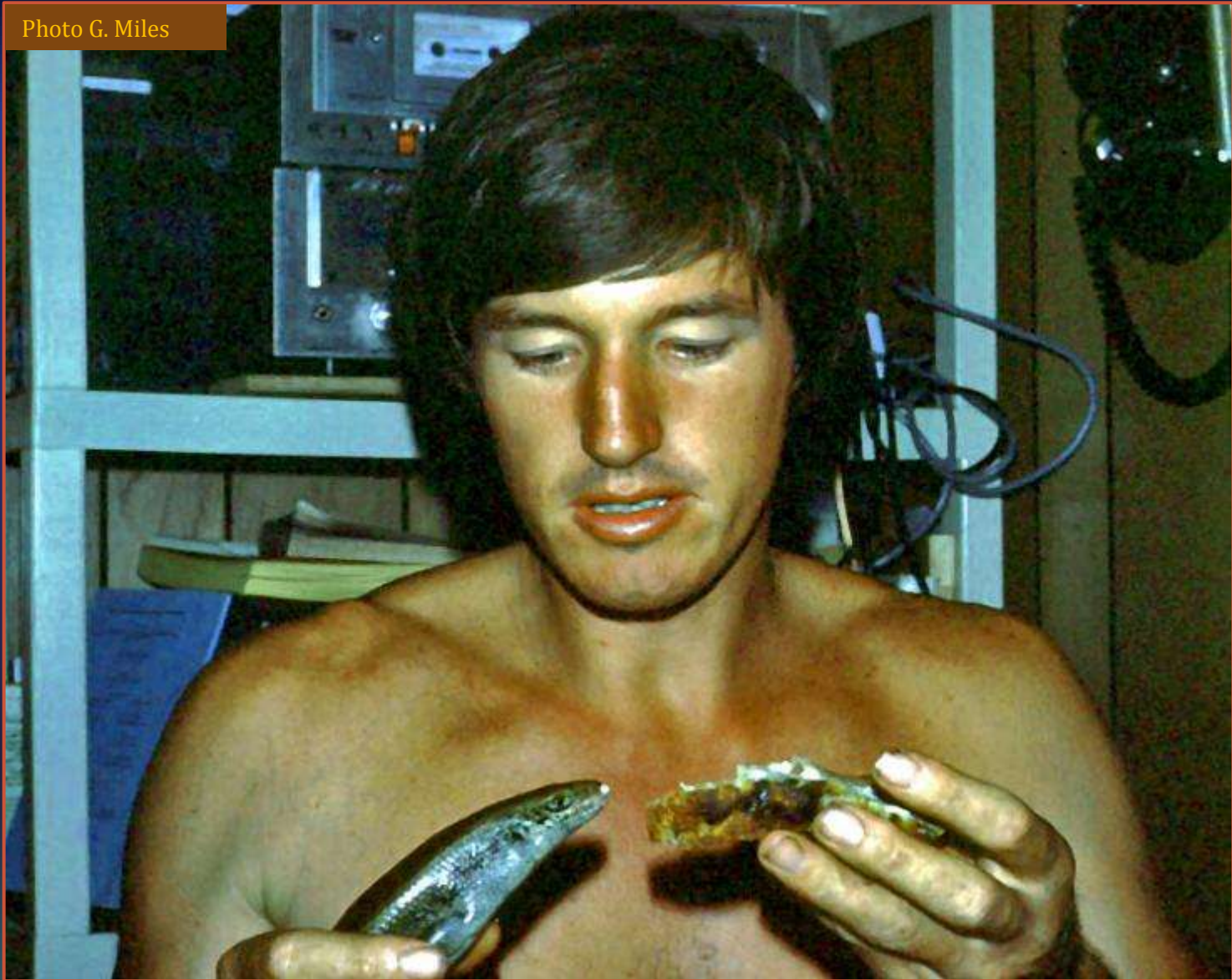
But we do applaud Parks Australia for agreeing to “a trial of 4 Giant Skinks” in a captive breeding setting. This is an encouraging start.

This species is very similar the Cunningham Skink. They are easy to keep in captivity and could be well kept by high school students. The letter from the Kakadu Board suggests that it would be expensive to set up a breeding colony of 10 of these animals. We find that surprising since the Curator of the Territory Wildlife Park estimated it would cost \$20,000 at that location. We added another \$10,000 in the proposal just to be on the safe side. I personally believe that I could set up a facility for a fraction of that at my property at Humpty Doo. But I personally don't want to keep any of these lizards. It would not be an expensive exercise to keep and breed 10 of these.

The next photo is humorously aimed at showing that it is not difficult to keep Giant Skinks. This is a photo of Ian Morris in about 1978, offering a Giant Skink some jam on toast.

They are easy to keep – similar to Cunningham Skinks

Photo G. Miles



Captive breeding in the private sector and predator proof enclosures are **“What’s next”**.
Mainly because there is nothing else.

It is curious that it seems to be OK to rescue threatened plants through 'captive propagation' and also reptiles on islands - but not with threatened animals in Kakadu.



Background note:

The preceding screen shows the Wollomi Pine which is now commonplace in the private sector. It has been effectively made 'extinction proof' through captive propagation.

There are many species of animals and plants worldwide that are extinct in the wild, but secure in captivity. Sadly, all the indicators point to this becoming an increasingly common situation in this country.

We in Australia should be proactively planning for this now, rather than being dragged, ill prepared and reluctant to the reality.

Moreover, Parks Australia is in the box seat to be national leaders in this inevitable and emerging field.

The next screen seeks to paint a picture of the prevailing conditions in Kakadu in which the python and skink find themselves.

The context in which the python and skink projects are floundering

- Kakadu is under attack from unstoppable and ill defined destructors.
- Evidence suggests that Kakadu management doesn't know where to allocate resources to stop the rot. Without knowing what disease one has, one cannot prescribe the right treatment.
- Kakadu's income stream is falling.
- Kakadu appears to have no overarching or integrated strategy to deal with conserving threatened and endemic species in the Park.
- The Federal Government – in headline statements - is calling for new and novel approaches, and more 'community' participation in nature conservation.
- But when the 'community' presents new and self funded projects to Kakadu – it is met with an impenetrable wall of red tape and bureaucratic minutia. *Nero fiddles!*



Background note:

What follows is a brief look at what is an avalanche of Federal statements that reinforce what Gavin, Jonathon, Sam and I are trying to do.

These statements also point to Parks Australia heading off in a direction in conflict with that being chartered by the Department of Sustainability, Environment, Water, Population and Communities.

Federal policy

1. The Biodiversity Conservation Strategy

- *“By 2015, achieve a 25% increase in the number of Australians and public and private organisations who participate in biodiversity conservation activities.*
- *By 2015, achieve a 25% increase in employment and participation of Indigenous peoples in biodiversity conservation.”*

It plainly states “**Business as usual is not an option.**” But Kakadu seems to be doggedly following that path.

2. The State of the Environment Report 2011

This document is laced with statements such as:

“Despite promising investment by all jurisdictions, the decline in biodiversity loss is not being reversed.”

“...case studies point towards increasing risk of population collapses in substantial proportions of most groups of plants and animals.”

“While all jurisdictions have high-level plans, these are often not matched with implementation plans or levels of resourcing that are capable of achieving the goals.”

“...failure of protected areas....”

...lack of clarity in many jurisdictions about specific biodiversity conservation objectives and targets.”

Background note:

This next screen pertaining to the **Convention in Biological Diversity** (CBD) is especially relevant. The CBD plainly implies that rather than Gavin paying out to establish a colony of Oenpelli Pythons – that the Director of National Parks should be paying him to do so! I am aware that the CBD is mainly focussed on developing countries, but the principle and goals of nature conservation remain the same no matter where they apply – including first world countries. It is strangely absurd that the CBD and our aims and objectives in terms of “ex-situ” conservation are precisely aligned, and yet the Australian Government (a signatory to the CBD) through Parks Australia seems hell bent on preventing us from doing exactly what the Convention is striving for.

Federal policy continued:

3. The Convention on Biological Diversity

Is an international legally binding treaty with three main goals:

- 1. conservation of biological diversity*
- 2. sustainable use of its components; and*
- 3. fair and equitable sharing of benefits arising from genetic resources*

“Article 8. In-situ Conservation

(c) Regulate or manage biological resources important for the conservation of biological diversity whether within or outside protected areas, with a view to ensuring their conservation and sustainable use;

“Article 9. Ex-situ Conservation:

- (a) Adopt measures for the ex-situ conservation of components of biological diversity,*
- (b) Establish and maintain facilities for ex-situ conservation of and research on plants and animals,*
- (c) Adopt measures for the recovery and rehabilitation of threatened species and for their reintroduction into their natural habitats under appropriate conditions;*
- (e) Cooperate in providing financial and other support for ex-situ conservation.*

“Article 10. Sustainable Use of Components of Biological Diversity

(c) Protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements;

(e) Encourage cooperation between its governmental authorities and its private sector in developing methods for sustainable use of biological resources.”

Background note:

Shown on the next screen is the Precautionary Principle (PP).

It is apparent that Parks Australia is interpreting the PP backwards. The PP clearly says that agencies “*should not wait until scientific certainty is in hand before taking measures to prevent degradation of the natural heritage of a reserve where there is a serious or irreversible threat.*” We argue that extinction of species is “*a serious and irreversible damage*”.

But the letter from the Chair of the Board turns that around the other way and is in effect saying the opposite: i.e. That “*further investigation on the status of this species is required before focussing efforts on the establishment of a program such as the one proposed.*” We argue that both can be done at the same time. It is not a case of either or either. There is little “*effort*” for Parks Australia to move a sum of money to the Territory Wildlife Park to establish the breeding facility. And the capture of the founding stock could take place during the “*further investigation*” action. There is a high risk that it could be too late to save the species if we wait until “*scientific certainty*” is established. Historic case studies tell us this. This is what the PP is there to prevent.

It is surprising that PA would want to engage in such a high risk gamble. Most Government departments are risk averse.

The Precautionary Principle (From the EPBC and the Kakadu PoM):

“A lack of full scientific certainty should not be used as a reason for postponing measures to prevent degradation of the natural heritage of a reserve, where there is a threat of serious or irreversible damage.”

BUT, in responding to the Giant Skink proposal we are told that:

“..... the Kakadu Board has determined that further investigation on the status of this species is required before focusing efforts on the establishment of a program such as the one proposed.”

The cost of doing nothing.

This is almost never factored in by Government agencies. The C. I. Pipistrelle demonstrated that the cost of doing nothing can be the highest cost of all.

The Giant Skink circa 1979



An Oenpelli Python in 1978



Background note:

The cost of doing nothing is well illustrated in the case of the C.I. Pipistrelle. As result, the cost of doing nothing is probably what is informing PA in terms of the C. I. Reptiles. So why not Kakadu's rare animals? Species like the python and skink are probably under similar environmental pressures as the C. I. Reptiles. But unlike those small lizards on the remote tropical island, we have no idea about the true status of the large Kakadu reptiles. We know that things are bad for them, but how bad is not known and it could take some time to learn of this.

In the next screen I make the case that rare and endemic wildlife would have more conservation security on a pastoral property than in Kakadu national Park.

At first when I played with this idea, it was a form of 'tongue in cheek'. But the more I looked at it the stronger the case became. Now, having spoken to conservation biologists who work on cattle stations, I am convinced that this unlikely scenario is in fact true.

The following screen shows the issues that I examined and in each case, the pastoral property came out level with, or ahead of, Kakadu National Park as the safest bet for rare and endemic wildlife.

Would wildlife be safer on a pastoral property than in Kakadu National park?

Are the government conservation agencies becoming part of the problem?

1. Over arching protection already exists
2. Stocking rates not an issue
3. Fire control not really an issue
4. Feral animal control about equal
5. Access for Parks & Wildlife
6. Access for NGO conservation agencies
7. Access for scientists in general eg Frogwatch
8. Access for animal traffickers



Photos G. Miles

Background note:

I will briefly describe each point on the previous screen here:

1. **Over arching protection already exists.** In other words, all of the species in question enjoy overall protection under NT legislation regardless of where they occur.
2. **Stocking rates not an issue.** Firstly, the endemic sandstone animals and plants have fairly good protection from stock by virtue of living up in the broken sandstone country. Secondly, the gross stocking levels of buffalo in Kakadu - for maybe 100 years prior to the Park's declaration - clearly did not have a negative impact on small mammals or any of the endemics which were common at the time of Kakadu's declaration. It is bewildering that wildlife loss has occurred almost in tandem with the removal of buffalo during the BTEC years.
3. **Fire control not really an issue.** I would make the case that some grazing is necessary to reduce the frequency, intensity and spread of wildfire. Grazing around the base of the sandstone country may have a very positive affect on burning patterns. Therefore I would suggest that fire control for habitat improvement may be better done when combined with grazing. I am not the only conservationist coming to this radical view and I think we will hear more of this in the future.
4. **Invasive species control about equal.** I suspect that there would be little difference in feral animal control results on a pastoral property vs Kakadu. Neither type of tenure has much impact on pigs or cats or toads. So I judge them equally on this topic. In terms of weeds, most endemic wildlife species occur on the stone country and out of reach of the wetland weeds. African grasses may make it up to the stone country but grazing around the base may minimise fire getting to it. In any event, Kakadu is engaged in a David and Goliath battle against African grasses. Only time will tell who wins.
5. **Access for Parks & Wildlife.** P & W can and do make an arrangements with the managers of properties in order to come and go at will, without first seeking permission. Managers often welcome responsible people onto their land who can assist in reporting of activities there, and advise on ways to improve environmental management.

Background note:

Page 2 of pastoral property hypothesis:

- 6. Access for NGO conservation agencies.** This refers in particular to organisations such as the AWC and the NT Field Naturalists Club. NGO groups such as the AWC are largely dependent on volunteers to achieve their remarkable results. There are now ample examples around Australia of the high rate of conservation successes being achieved by NGO's in comparison to Government conservation agencies. With a single focus of biodiversity conservation, these agencies do not have to compromise with 'too many bosses' in the manner that conventional park agencies do. NGO's can negotiate activities with much greater latitude on a pastoral property than in a national park.
- 7. Access for scientists in general eg Frogwatch.** Frog watch NT and sections of the Charles Darwin University are examples of other independent biodiversity research groups in the private sector, which find it difficult to work in Kakadu due to the onerous nature of the laws and policies there. Instead, Frog Watch NT finds it much easier to carry out wildlife conservation studies on a pastoral property. Unfortunately they cannot access the rare endemics except in Kakadu. Rare and endemic animals in Kakadu are mainly cut off from the helping hand of NGO conservation biologists.
- 8. Access for animal traffickers.** It is easy to make the case that Kakadu policies assist wildlife poachers and traffickers. But I will take this further in the context of rare and endemic wildlife being within a private pastoral property. We have already seen how a failure to allow the Oenpelli Python and Giant Skinks into the reptile keepers world will energize animal traffickers. It is important to note that Kakadu, with almost 70 rangers, is no more able to keep poachers at bay than a pastoral property. In Kakadu there are few locked gates and people are free to 'case the joint' during daylight hours. In many places in Kakadu people are permitted to camp near some of the most prospective endemic reptile locations. Conversely all such locations on a pastoral property are generally behind locked gates. Only people with a genuine reason to enter are allowed in. It is true that keen law breakers will cut the fence if necessary, but Kakadu generally has no fences. It is not hard to catch smuggle animals out of Kakadu undetected. The level of difficulty is much higher from within a securely fenced cattle property.

It is from these elements that I draw the conclusion that rare and endemic animals would be more secure against extinction if they were not found in Kakadu National Park.

Summing up Page one:

- National parks agencies Australia wide are admitting that traditional methods of nature conservation are not working.
- Kakadu and the adjacent IPA, are home to 90% of the NT's endemic plants and animals. But Kakadu lists none of them as "*significant*" or includes any of them in their selected group of 8 for monitoring or anything else.
- PA's main response to wildlife collapse is: **monitoring** (although this is mainly done by NT P&W).
- Monitoring and surveying in Kakadu takes 3 forms, none of which can have a positive conservation outcome for endemic wildlife - unless linked with subsequent direct action such as captive breeding and or predator and fire proof exclosures.
- Parks Australia has no **What's next**, after monitoring determines a continuing decline in an endemic or threatened species.
- Kakadu's current monitoring **cannot** determine continual declines in endemic or threatened species.
- Monitoring, it seems, is being used as a cover for inaction.
- Parks Australia appears unwilling, or unable to enact Recovery Plan or NT Status Report recommendations.

Summing up continued:

- Kakadu appears to have no overarching goal or integrated strategy to protect threatened and endemic plants or animals in the Park.
- Parks Australia faces no accountability mechanism if it fails in its core responsibility to protect wildlife in Kakadu.
- Kakadu does not know where to focus effort to stop the rot in the Park.
- In recognising that traditional methods of nature conservation are failing, the Federal Government - in all its headline statements - is calling for more radical approaches and more community participation in nature conservation.
- Yet, when the 'community' (including a senior Aboriginal traditional land owner) submits conservation projects to Kakadu, they are met with an impenetrable wall of red tape and bureaucratic minutia.
- Kakadu itself makes no voluntary effort to place 'at risk' species into a 'safe house' while more is learnt of the cause of declines in the wild.
- With each passing year, more species are added to the Threatened Species list and the urgency grows – but for many rare and endemic species in Kakadu - there is no hope.

Where we started:

What I have put before you is, in my opinion, evidence that wildlife conservation policies in Kakadu are:

- inversely prioritised,
- not integrated or strategically organised,
- poorly focused,
- lacking in conviction and
- promising no effective conservation benefits for endemic and threatened species in particular.

What is your opinion?