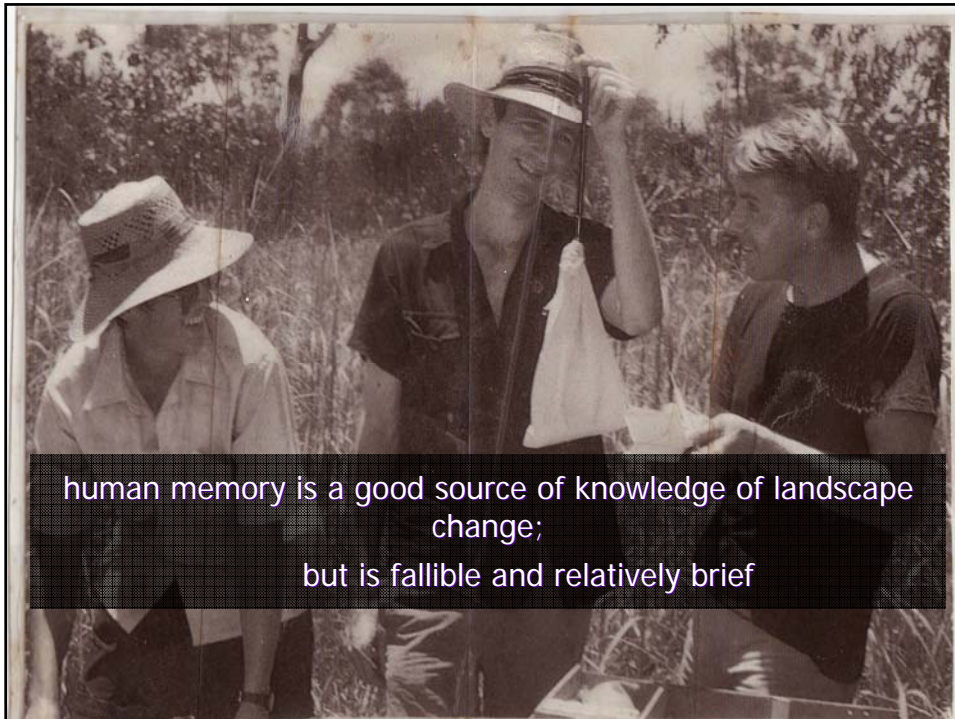




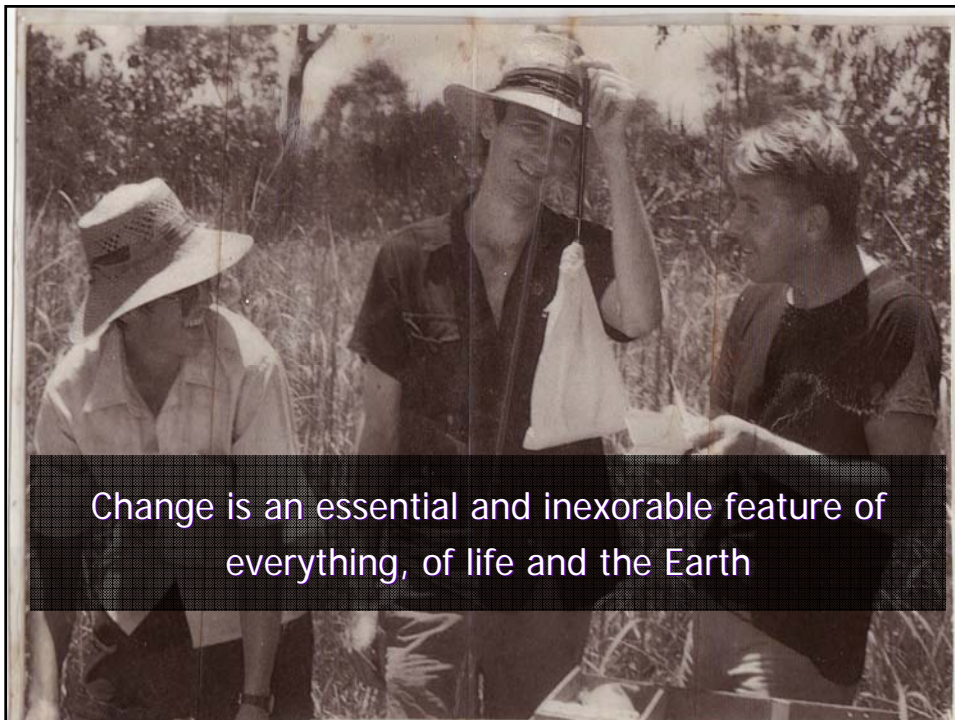
Landscape Change Overview
John Woinarski



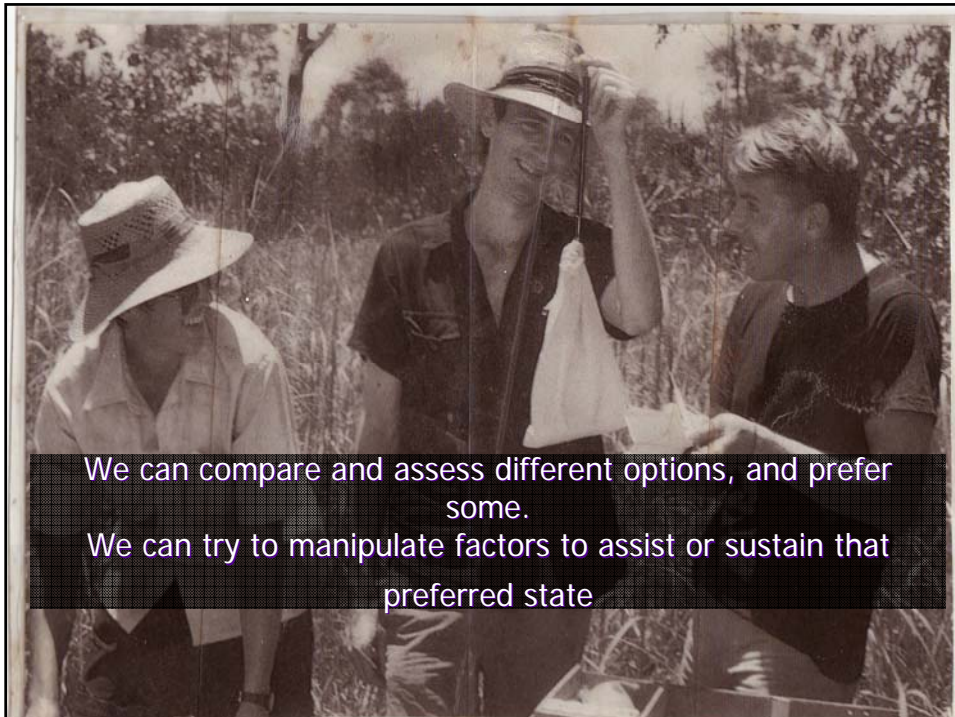
Change is inevitable



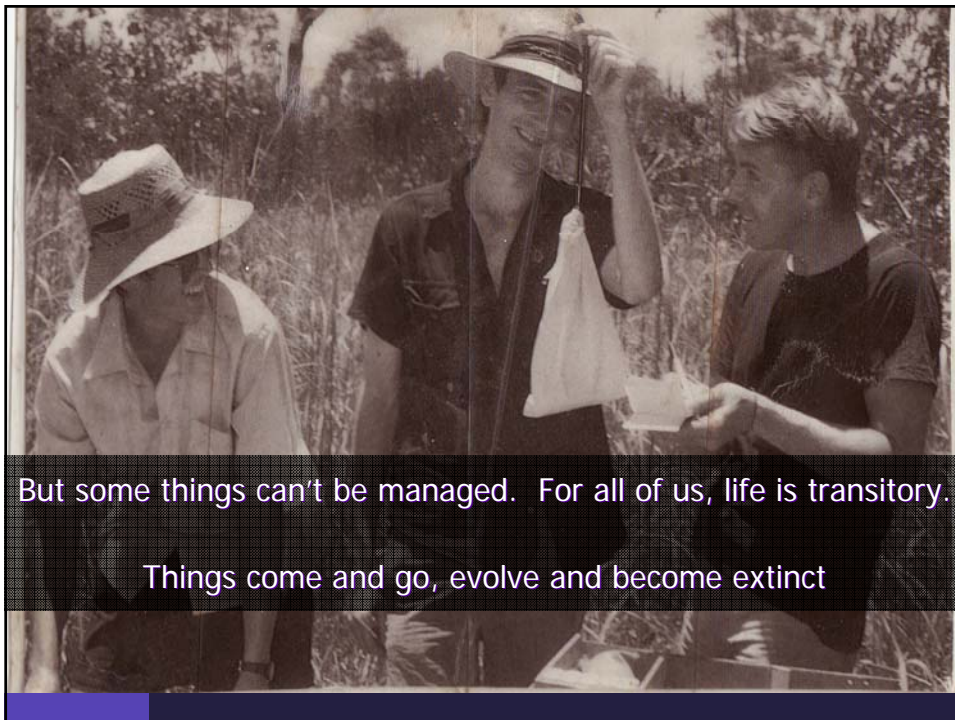
human memory is a good source of knowledge of landscape
change;
but is fallible and relatively brief



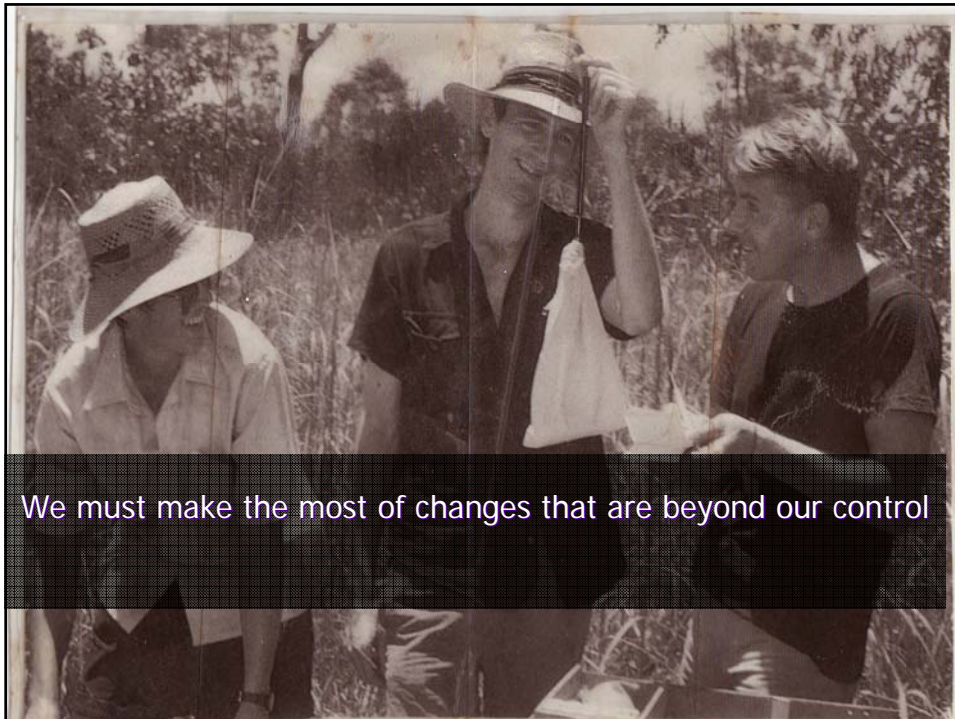
Change is an essential and inexorable feature of
everything, of life and the Earth



We can compare and assess different options, and prefer some.
We can try to manipulate factors to assist or sustain that preferred state



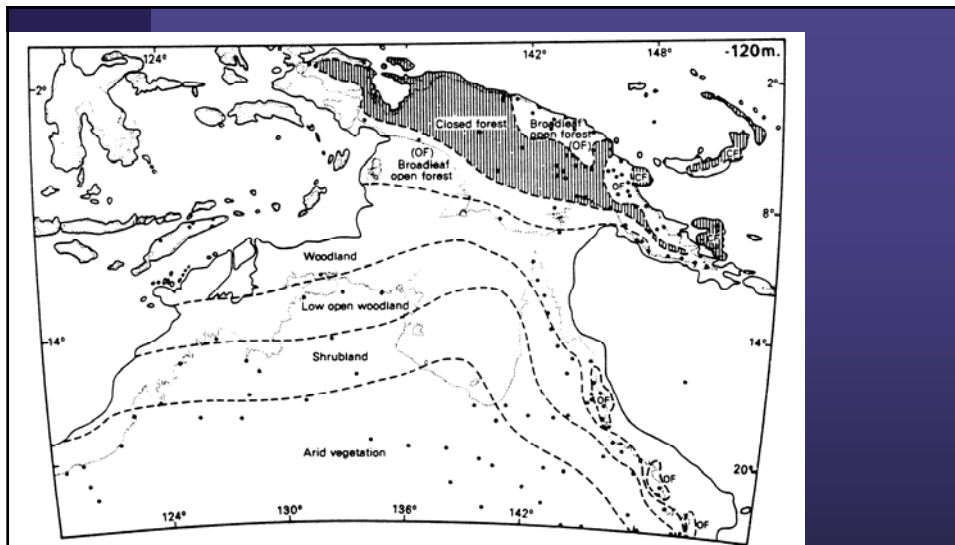
But some things can't be managed. For all of us, life is transitory.
Things come and go, evolve and become extinct



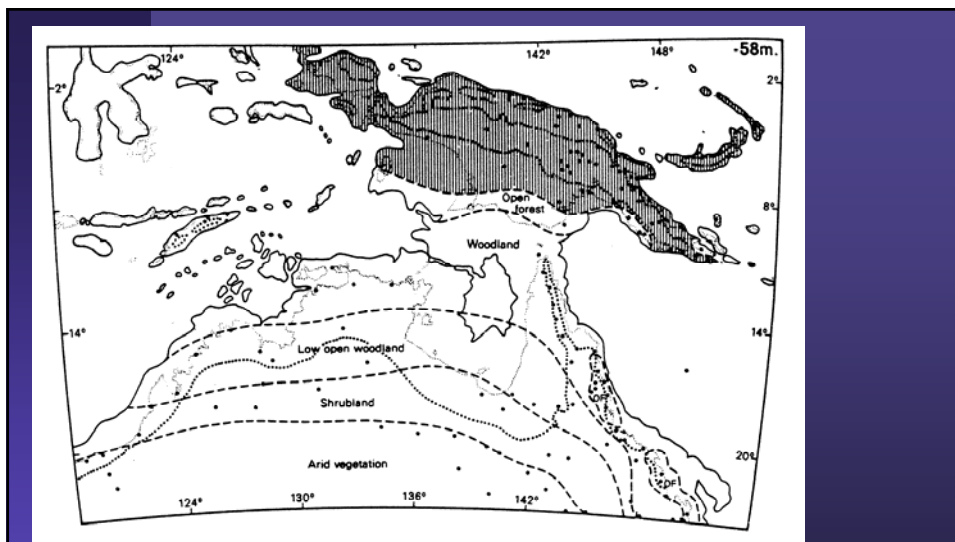
We must make the most of changes that are beyond our control



Parts of the Kakadu landscape are remarkably timeless.
The stone country has an unbroken presence in the landscape for >100 million years



North Australian geography – 20,000 years ago
(source Nix & Kalma 1972)



North Australian geography – 12,000 years ago
(source Nix & Kalma 1972)

6,000 – 8,000 years ago

- Much of the coastal floodplains were dense mangrove forests

THYLACINE DESIGNS IN ARNHEM LAND ROCK PAINTINGS 27



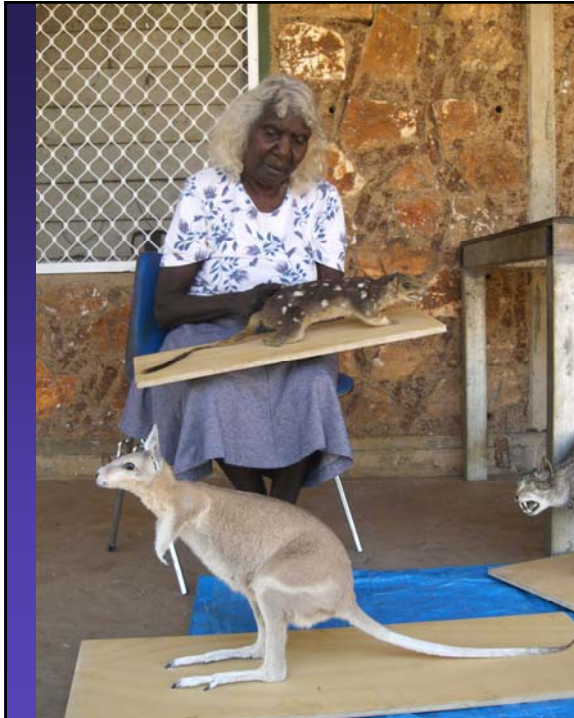
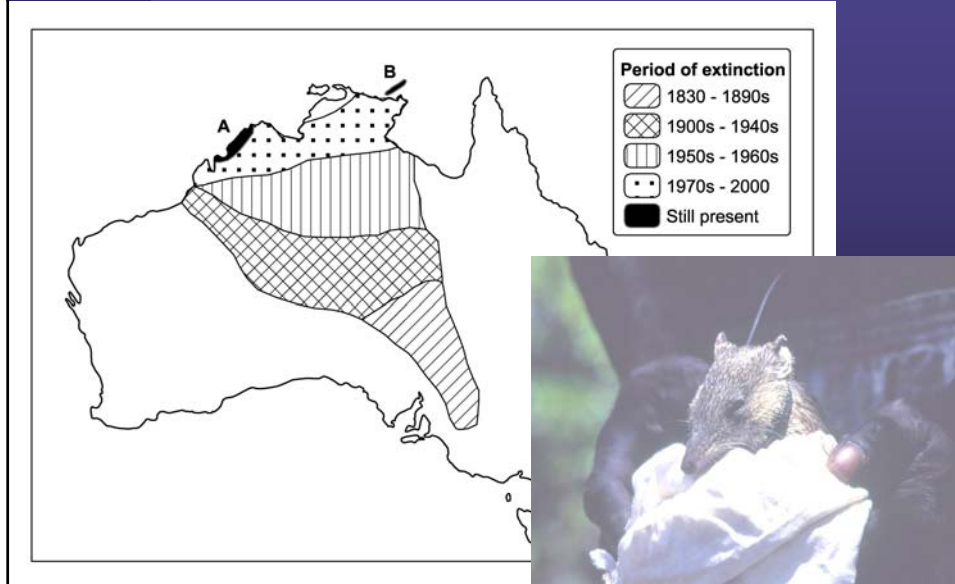
Figure 6.—Drawing of painting at Site 3 (see Plate I 60).
Figure 7.—Drawing of painting at Site 4 (see Plate I 60).
Figure 8.—1:1 scale tracing of painting at Site 5, Cabell River Crossing.

Changing landscapes;
changing wildlife



Photo: Peter Cooke

Recent decline of golden bandicoot



This is a highly dynamic landscape

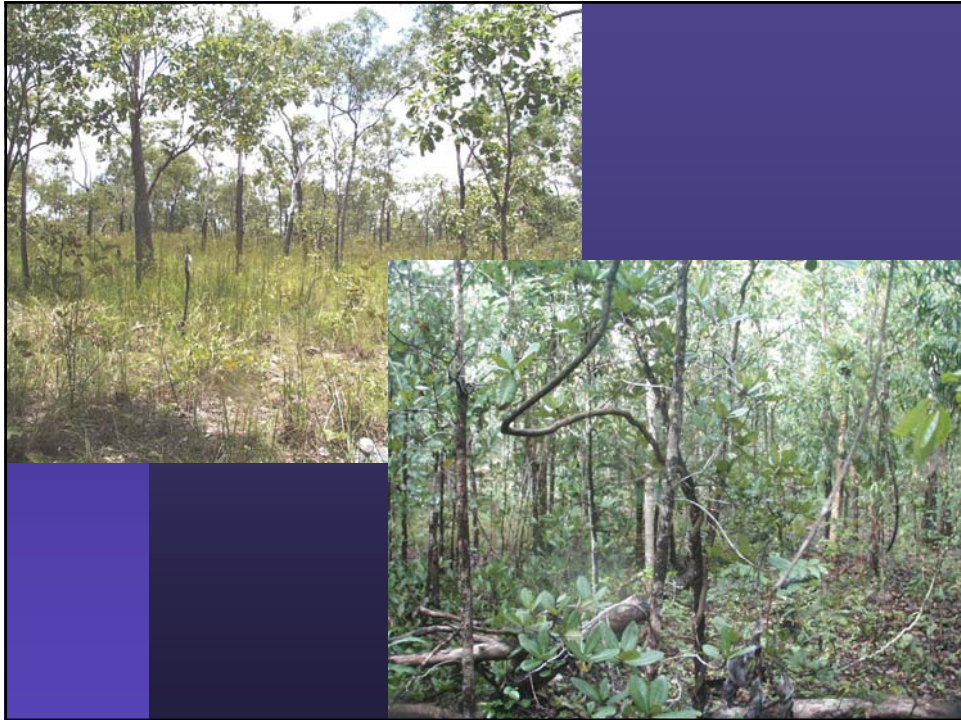
- fire, flood & storm





Photo: Garry Cook





What to do about landscape change?

Recognise and document it

Q1. what is changing? what is stable?

Q2. what is the rate and pathway of change?

*requires systematic inventory, monitoring
benefits from some advances in imagery etc*

note that some changes may be subtle but significant; others conspicuous but non-substantial

What to do about landscape change?

Evaluate the attributes

- Q3. what state do we want the landscapes to be in?
- Q4. what are the values we want to enhance?
(note that this needs be both site-specific and contextual)

What to do about landscape change?

Understand it

- Q5. what are the factors that cause change?
- Q6. what are the factors that underpin stability?
- Q7. what are the natural dynamics of the new extrinsic factors?

need to recognise a cocktail of new factors are driving (or perverting) the system

introduced weeds, pests

climate change & CO₂

land-use changes (pastoralism)

changed management capability

[nb these often compounding]

What to do about landscape change?

Manage it

- Q8. what driving factors are and aren't manageable?
- Q9. what needs to be done to sustain the states and values we want?
- Q10. amongst the options, what is most cost-effective?

What to do about landscape change?

Embrace it

- S1. be prepared for change
- S2. accept new attributes and states, if unavoidable