

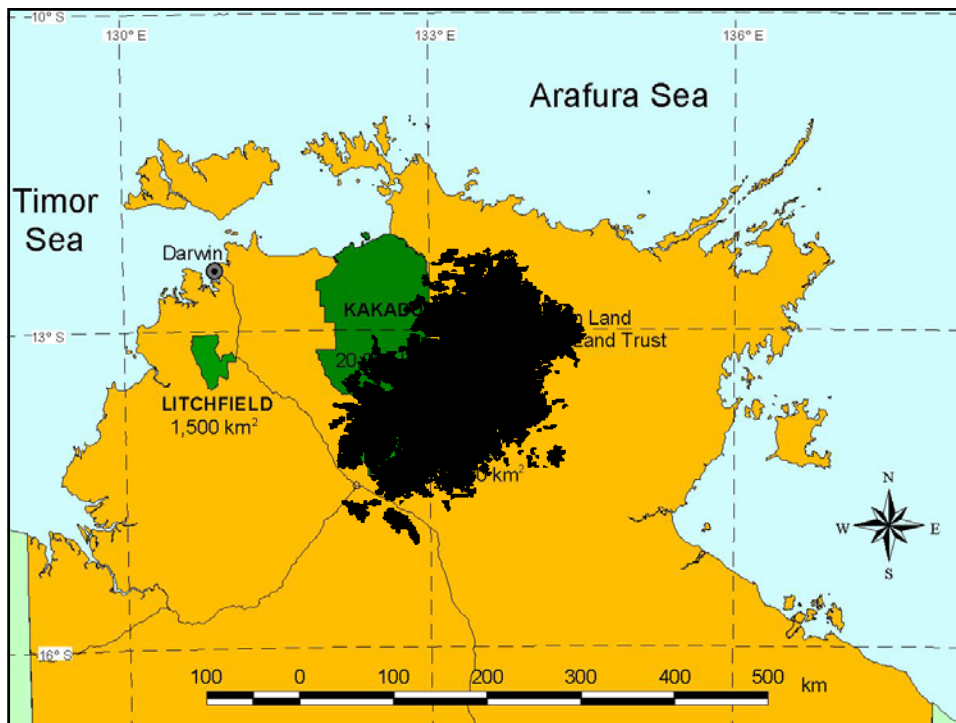
Fire effects on the Sandstone

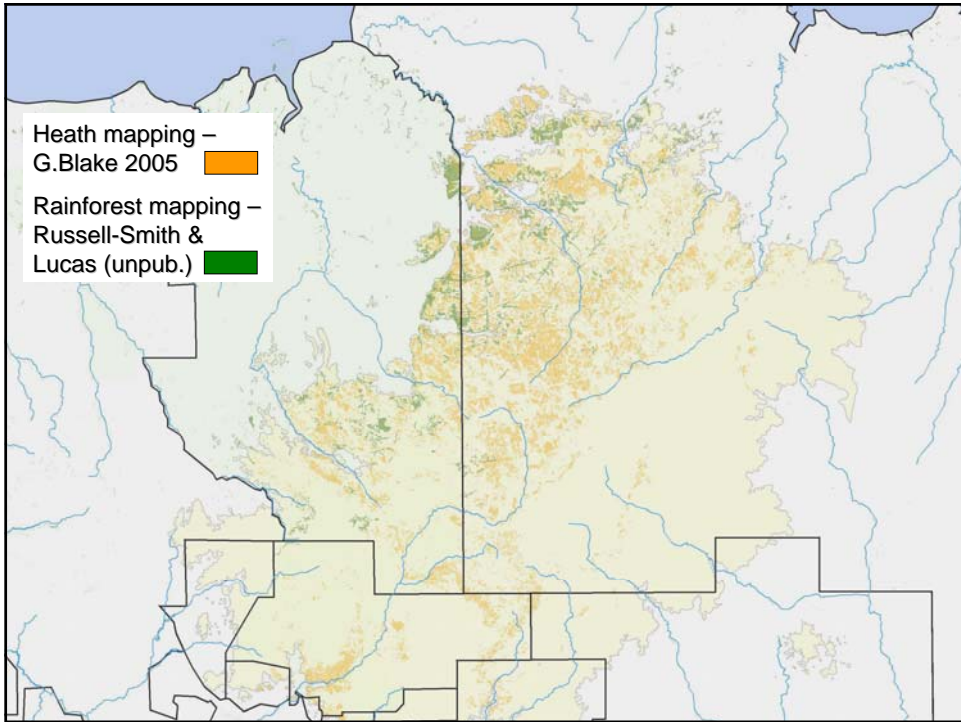
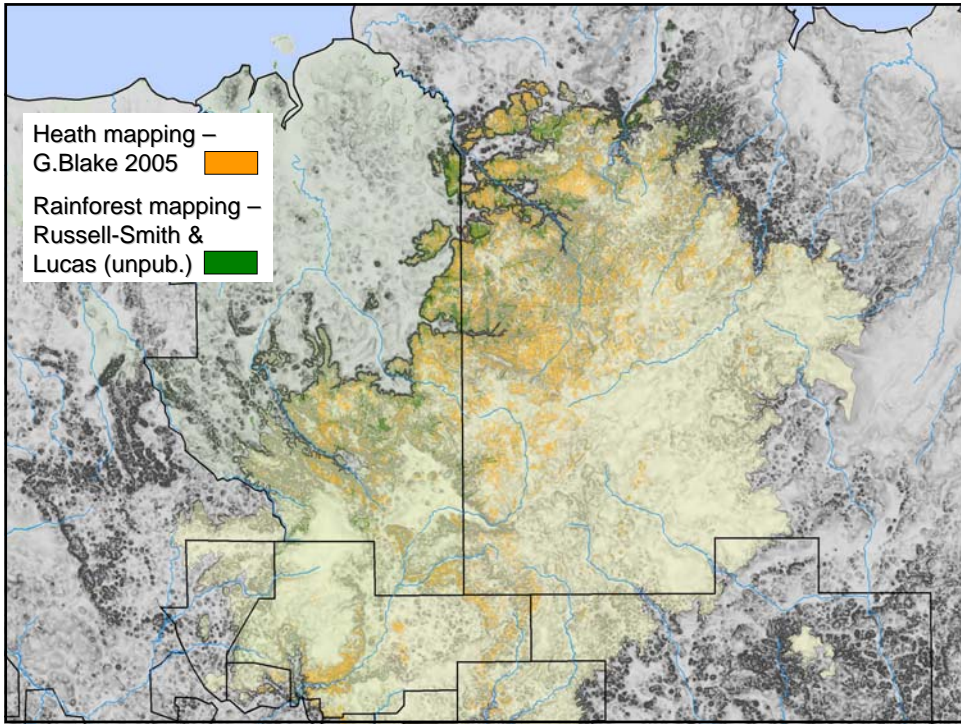
Andrew Edwards, Jeremy Russell-Smith and Felicity Watt

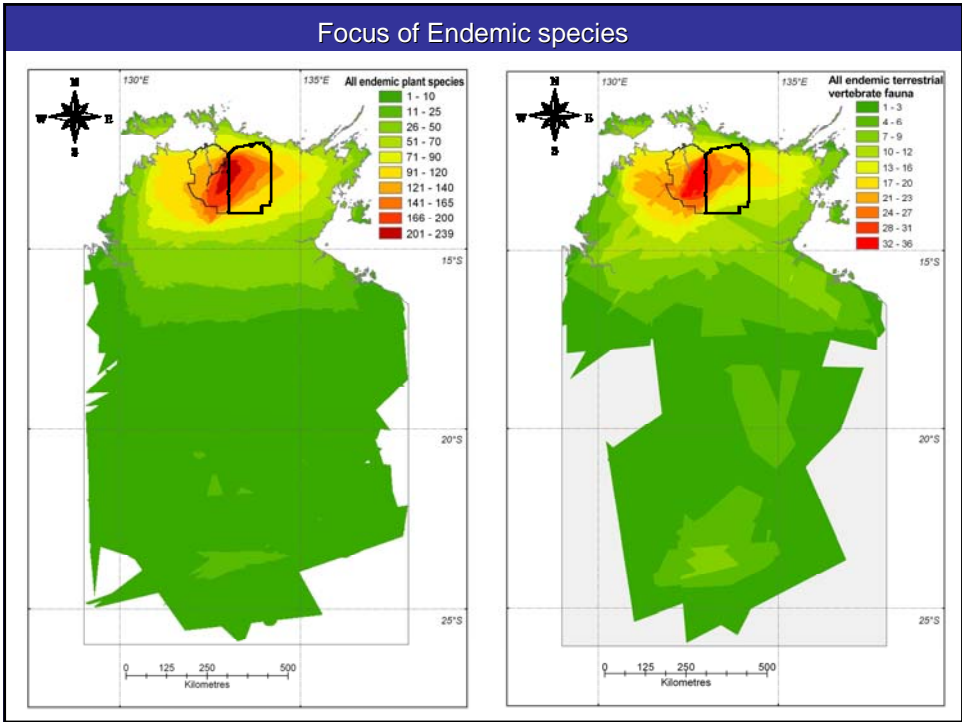
Bushfires NT

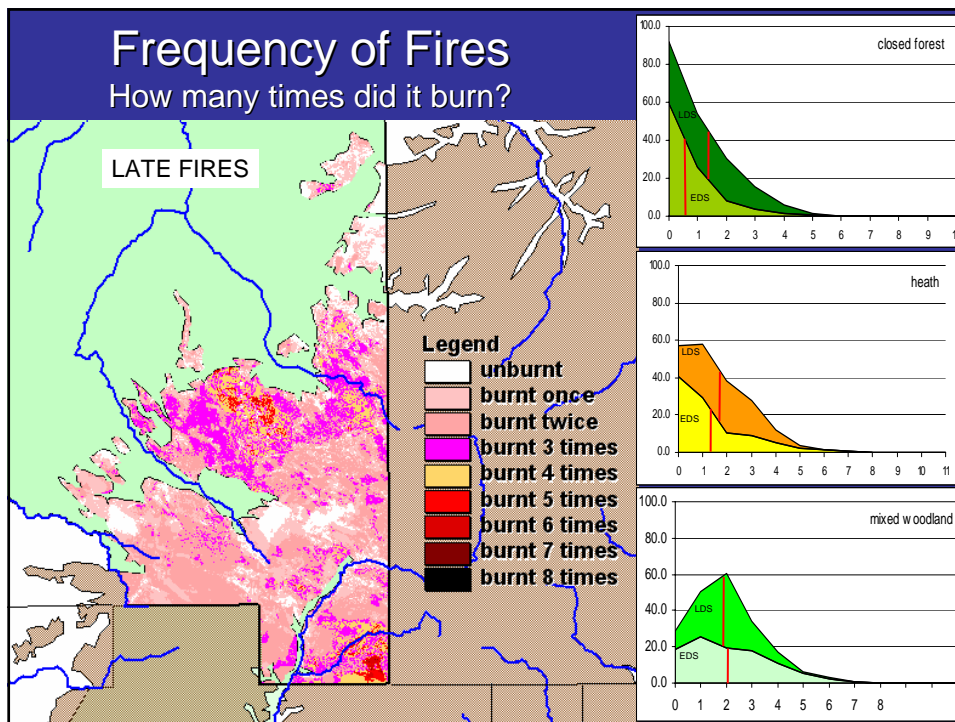


Tropical Savannas CRC









The number of times burnt by early dry season fires is an indication of the level of management.

Mixed woodland was burnt ~ twice in 9 years

Heath communities were burnt ~ once in 9 years

Closed forests received one fire in 20 years.

This suggests that prescribed burning occurs more in the **mixed woodlands** surrounding the **heaths** and **rainforests** than in the **heaths** and **rainforests** themselves.

The number of times burnt by late dry season fires is an indication of the impact of hot wildfires on the habitats.

Many species, particularly in **heath communities**, only come back from seed, so frequent **hot** fires in an area probably means extinction of that species in that area.

Not much difference in the average number of times all 3 habitats have been affected by hot late dry season fires.

On average, there is a hot fire through the **heath** and the **mixed woodland** habitats approximately once every six years

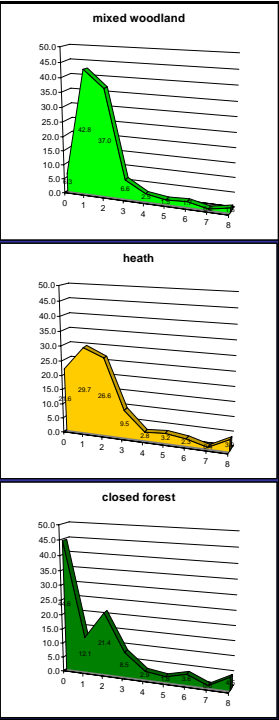
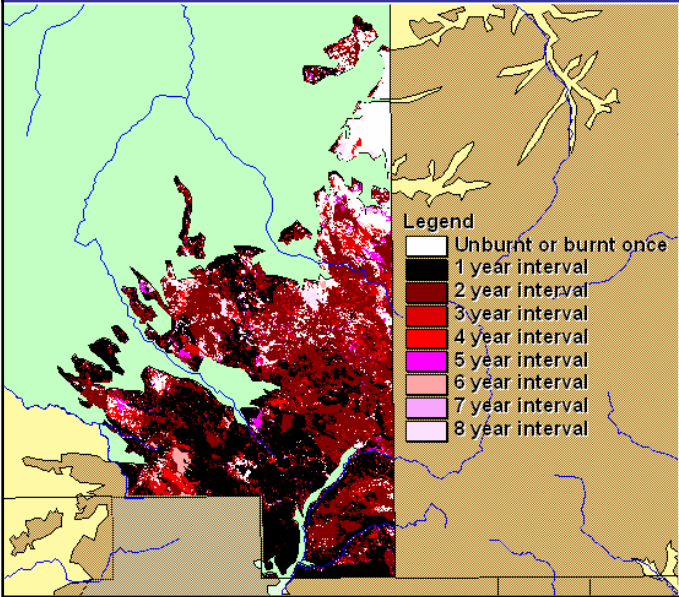
On average there is a hot fire once every 8 and a half years in the **rainforests**.



FIRE AFFECTS:
 Intervals between fires are critical
 for the preservation of
 longer lived obligate seeder flora



Shortest Time between Fires



The shortest number of years between fires can indicate how the fire regime is affecting those plants that only come back from seed.

Rock Myrtle (*Petraeomyrtus punicea*) - six years to maturity requires 6 years fire free in heath communities (Russell-Smith 2006) where we want Rock Myrtle to grow.

Nearly three quarters of heath habitat had intervals of 6 years or less. Cypress pine (*Callitris intratropica*) takes nearly ten years to mature. Only 10% of the whole sandstone plateau had intervals more than 9 years. Cypress pine are no longer likely to be as widely spread across the plateau as recent surveys and anecdotal evidence suggest.

Rock Myrtle

(*Petraeomyrtus punicea*)

Shrub, found in rocky heaths

Minimum Time to reseed:
6 years





Cypress Pine (*Callitris intratropica*)

Tree found in woodlands

Time to reseed >>10 years



SUMMARY

- Indicator species not doing so well – **Regelia, Cypress Pine...**
- over half of the **heath habitat** has had **no more than two years** between fires at least **once in the 9 year** assessment; therefore most **obligate seeder** species might not be doing so well.
- Effort in protecting the **heaths** and the **rainforest** patches with early dry season burning in the surrounding woodlands
- However, **big hot fires** are still affecting large areas of **heaths** and impacting on many **rainforest** patches

The 3 main requirements to assist fire management on the sandstone in Kakadu National Park:

1. Improved use of the available **historical fire mapping** as part of a consultative planning process;
2. Improved **habitat mapping** of various and appropriate scales, including known locations of rare and threatened species/habitats;
3. A **consolidated** approach to the undertaking of **on-ground fire management**.