



Project 7.1: Fire & rainforests

Littoral rainforest, Mabi forest & Mahogany Glider habitat

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CONTEXT

Research Priority - Protecting our biodiversity and heritage

Wet Tropics – fire misunderstood, feared, ignored, avoided

Growing national dialogue about the benefits of fire

Recognition of the critical nature of Indigenous fire management

Technology developed to model fire



Tourism-Agriculture-Resources-Construction



BACKGROUND

- Fire is a natural modifier of vegetation composition, structure and distribution
- Fire has been used as a management tool by indigenous people for 000's of years
- Fire regimes changed under European management approaches
- Fire a threatening process; absence of fire is a threatening process





RELEVANCE OF WORK

- Fire is a management tool required to maintain ecosystem health within the Wet Tropics landscape
- Require empirical evidence to support policy and management strategies around application or exclusion of fire
- Climate change scenarios suggest that fire is likely to be a significant contributor to landscape transformation





CASE STUDY – MAHOGANY GLIDER

- absence of fire allows rainforest to invade habitat – key threatening process
- invasions < 5 years old reversed with fire
- invasions > 10 years old require very high fire intensities
- fire changes recruitment and survival patterns





CASE STUDY – MABI FOREST

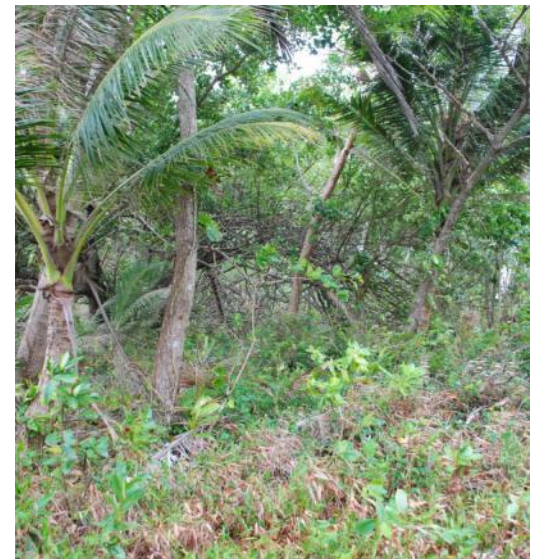
- seasonally dry forest types may support litter fires in exceptionally dry years
- such fires may be important in weed control and promoting tree recruitment
- off-site experimental combustion will determine conditions under which fire possible
- microclimatological data will indicate frequency of such events
- climate change scenarios suggest increases?





CASE STUDY - LITTORAL RAINFOREST

- fire is a significant threat to persistence
- weed invasion, fire in adjacent communities and agricultural/urban environments pose risk
- pilot study mapping littoral rainforest extent, condition and threats published
- work with agencies, community and traditional owner groups to improve management and protection





APPLICATION OF WORK

- Recognise the importance of fire in Wet Tropics landscape, both as a positive and negative influence
- Suggest appropriate fire regimes for different vegetation types
- Incorporate traditional ecological knowledge into management understanding of the role of fire
- Provide empirical data to underpin policy decisions and management strategies
- Inform the discussion about how future climate scenarios will change management imperatives



FUTURE DIRECTIONS

- conservation advice on littoral and lowland rainforests
- experimental fire for weed control in Mabi forest
- amended fire management recommendations for Mahogany Glider habitat
- incorporation of TEK into fire management policy development
- improved understanding of fire in transitional and potentially transformative role in Wet Tropics landscapes under climate change



THANK YOU

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Cassowary Coast Regional Council

Rainforest Aboriginal People's Alliance

Girringun Community

Wet Tropics Management Authority

