

Managing Savanna Fire Regimes

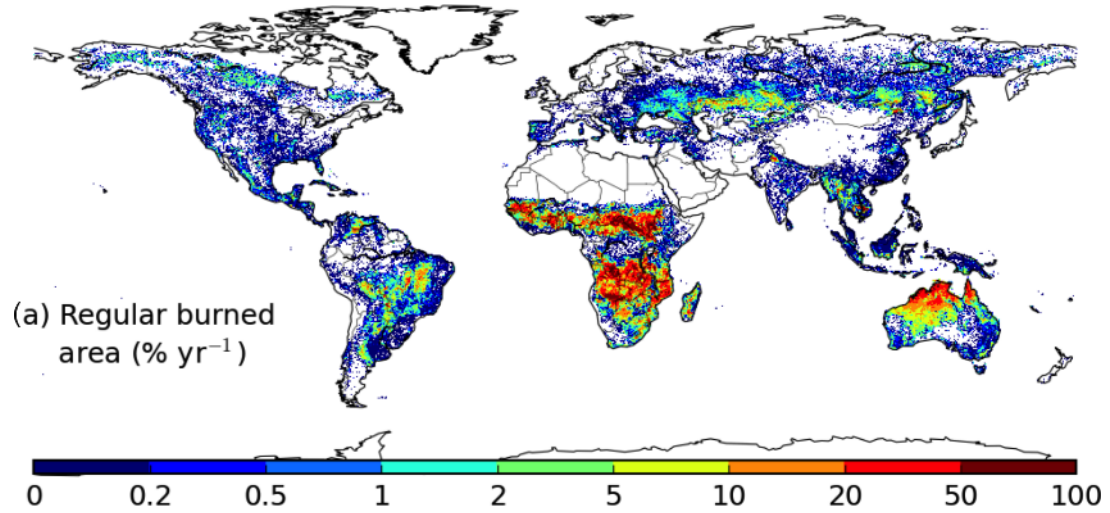
Jeremy Russell-Smith

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International Savanna Fire Management Initiative



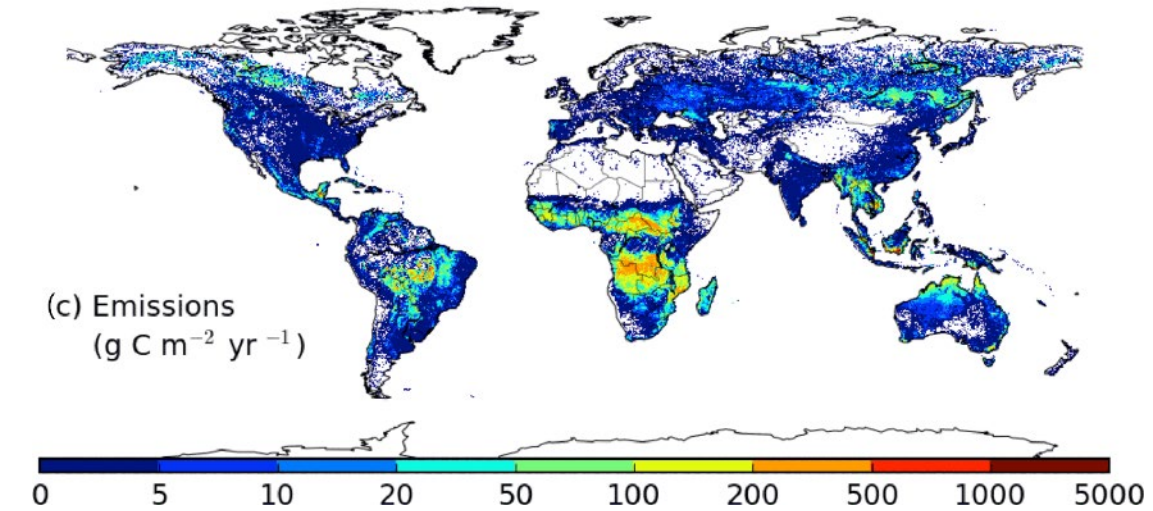
Proportion of area burnt,
2003-2016, per 0.25° cells

90% of global burnt area
is from savannas



GHG emissions from
fires—1997-2016

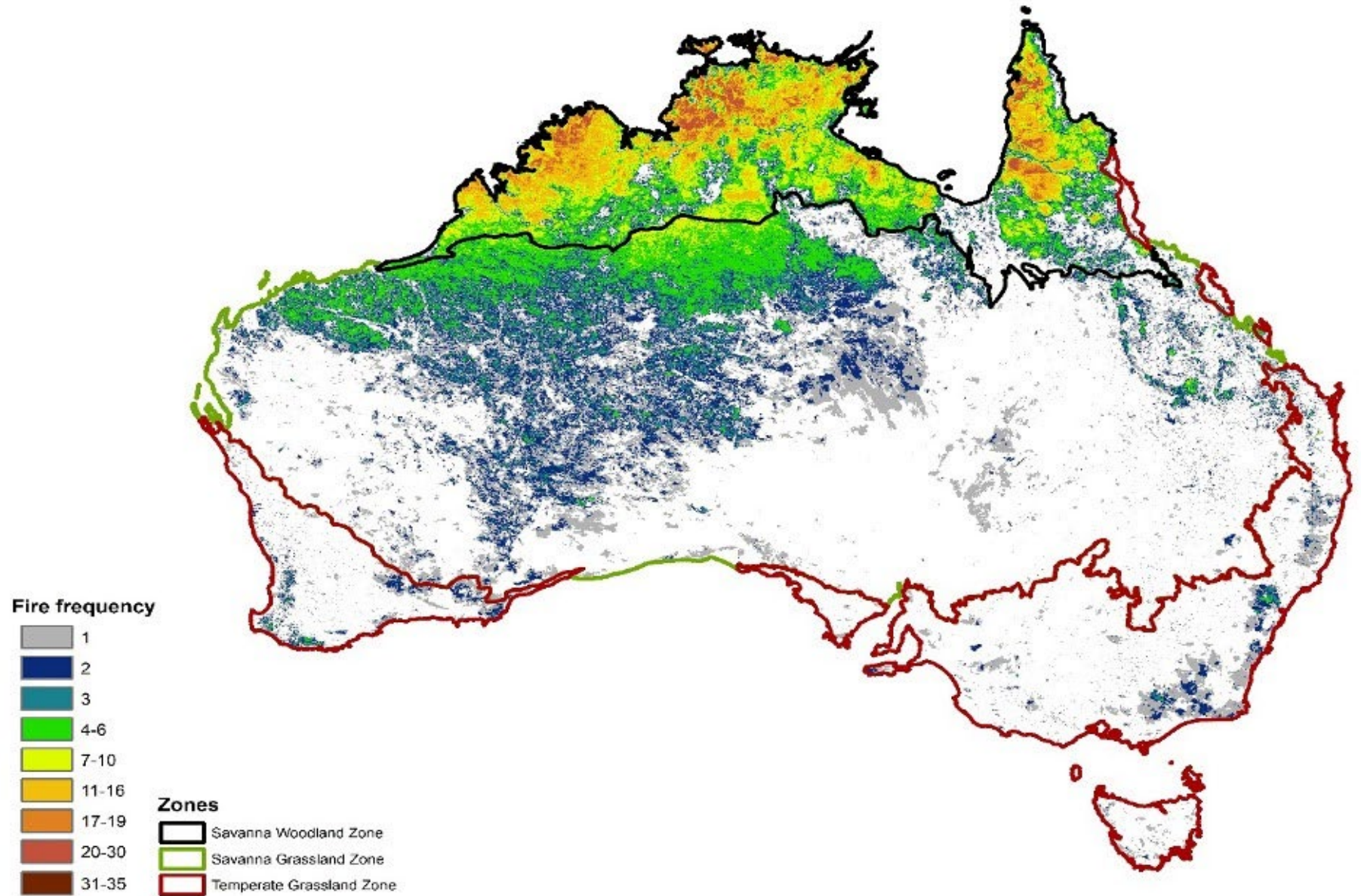
62% of global fire
emissions come from
savannas



Fire frequency of large fires 1988-2022

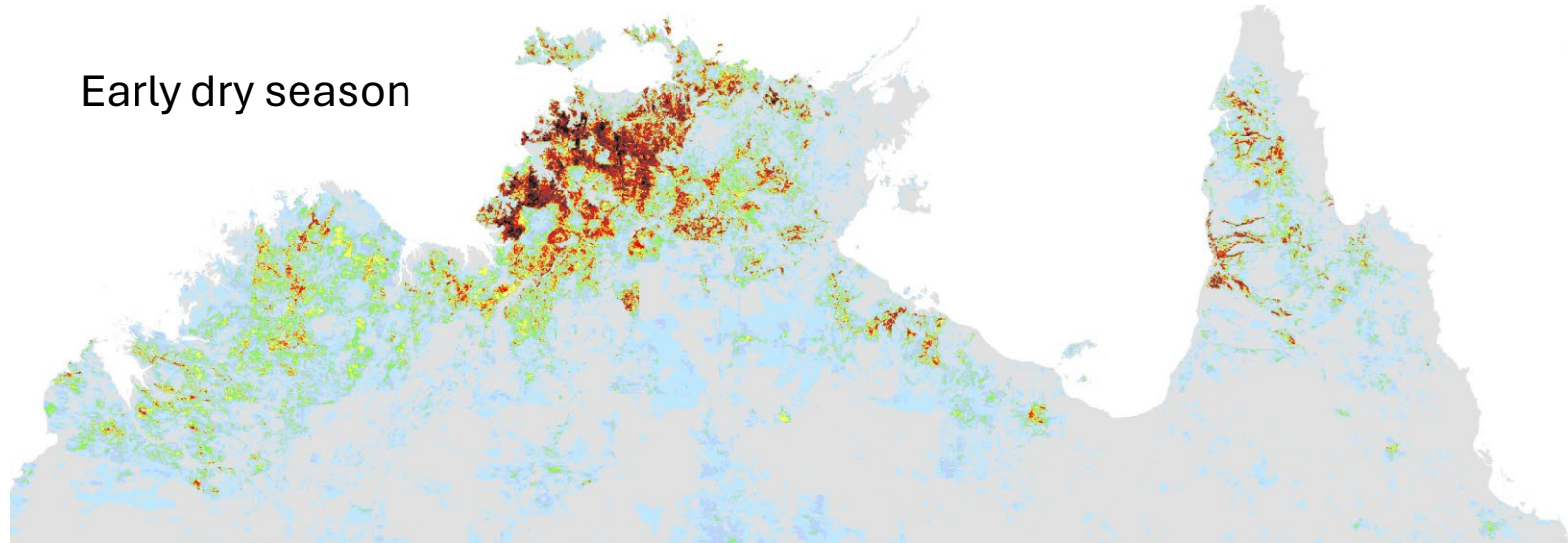
Derived from
AVHRR imagery—
Landgate WA

Source: NGGI Report
2022



Fire frequency 2000 – 2011, derived from MODIS imagery

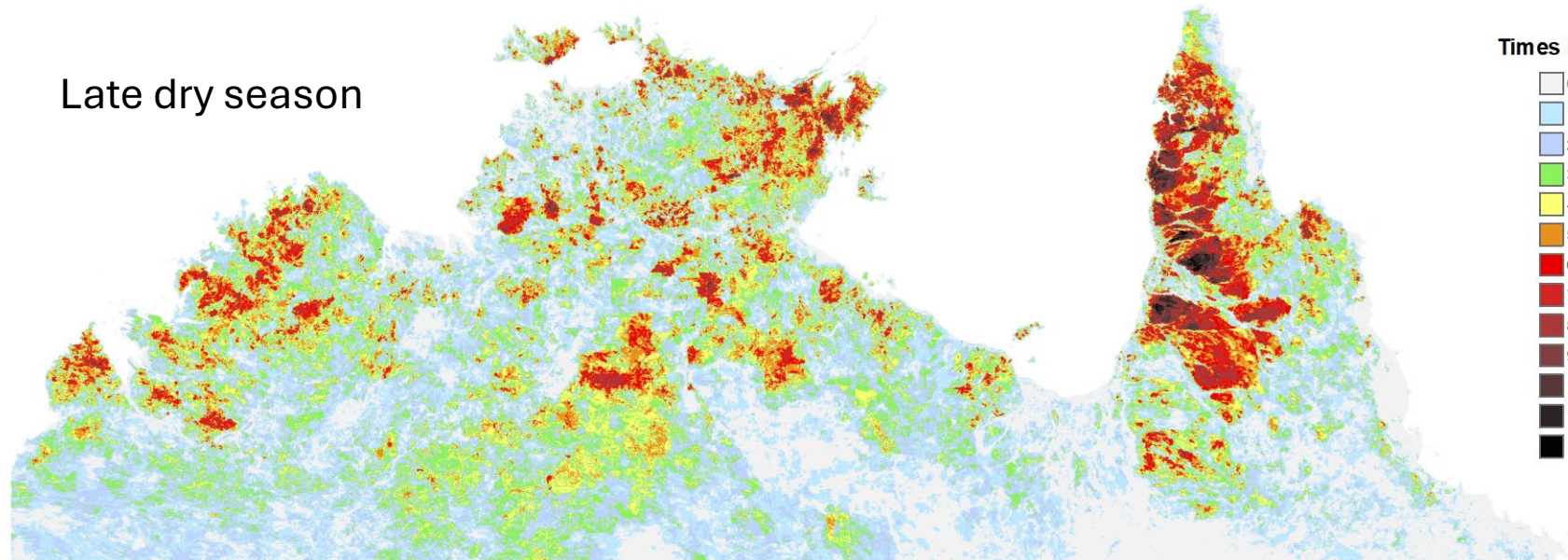
Early dry season



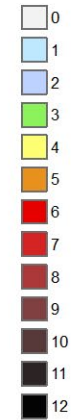
Times Burnt



Late dry season



Times Burnt



**Early dry
season (EDS),
pre-August,
prescribed
fires**



Scorch mostly <2 m



Patchily burnt

**Late dry
season (LDS),
after August,
unplanned /
wildfires**

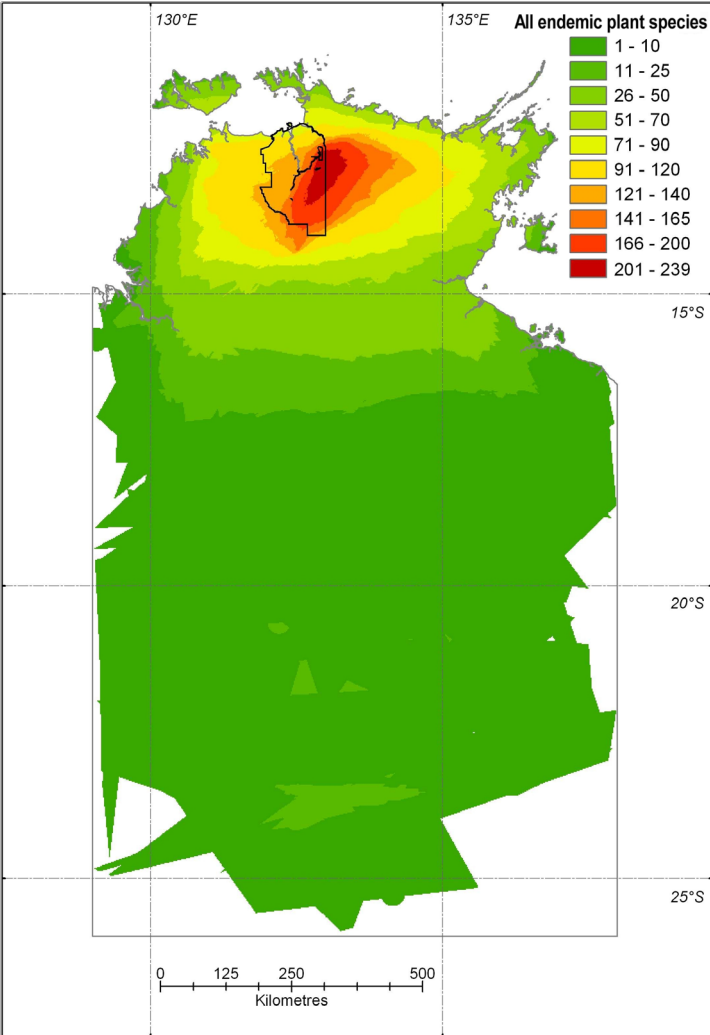
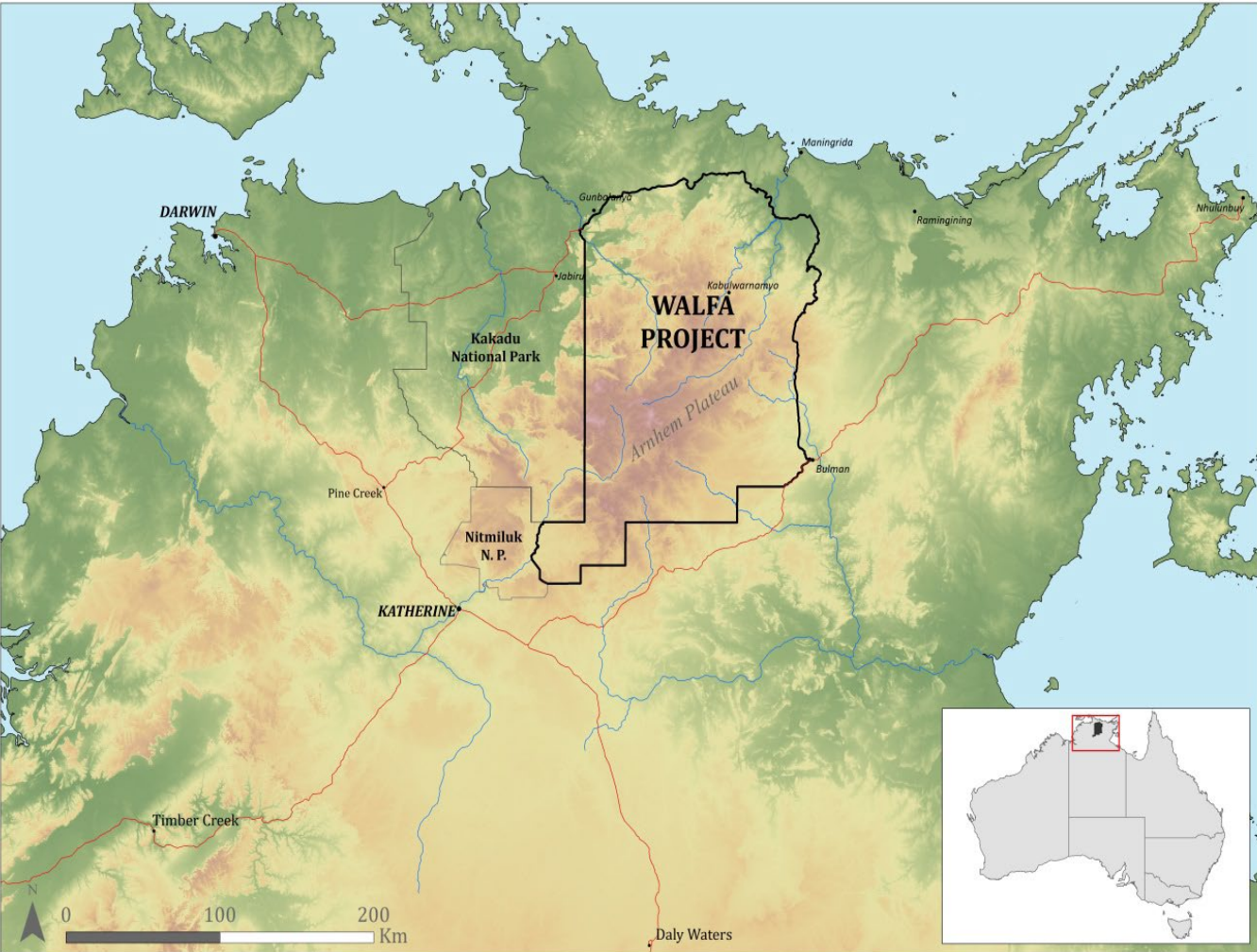


Tree canopy scorched

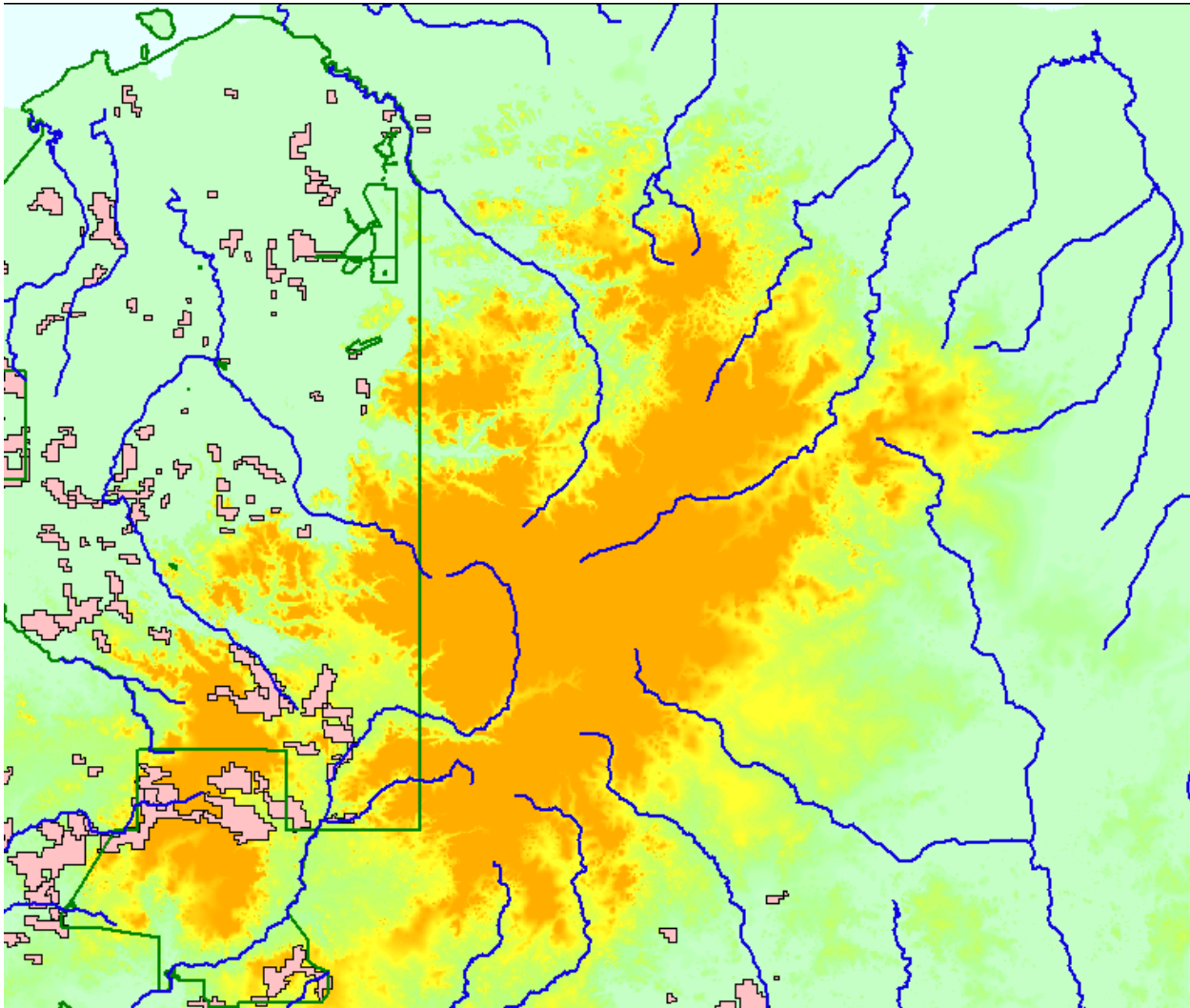


Not Patchy

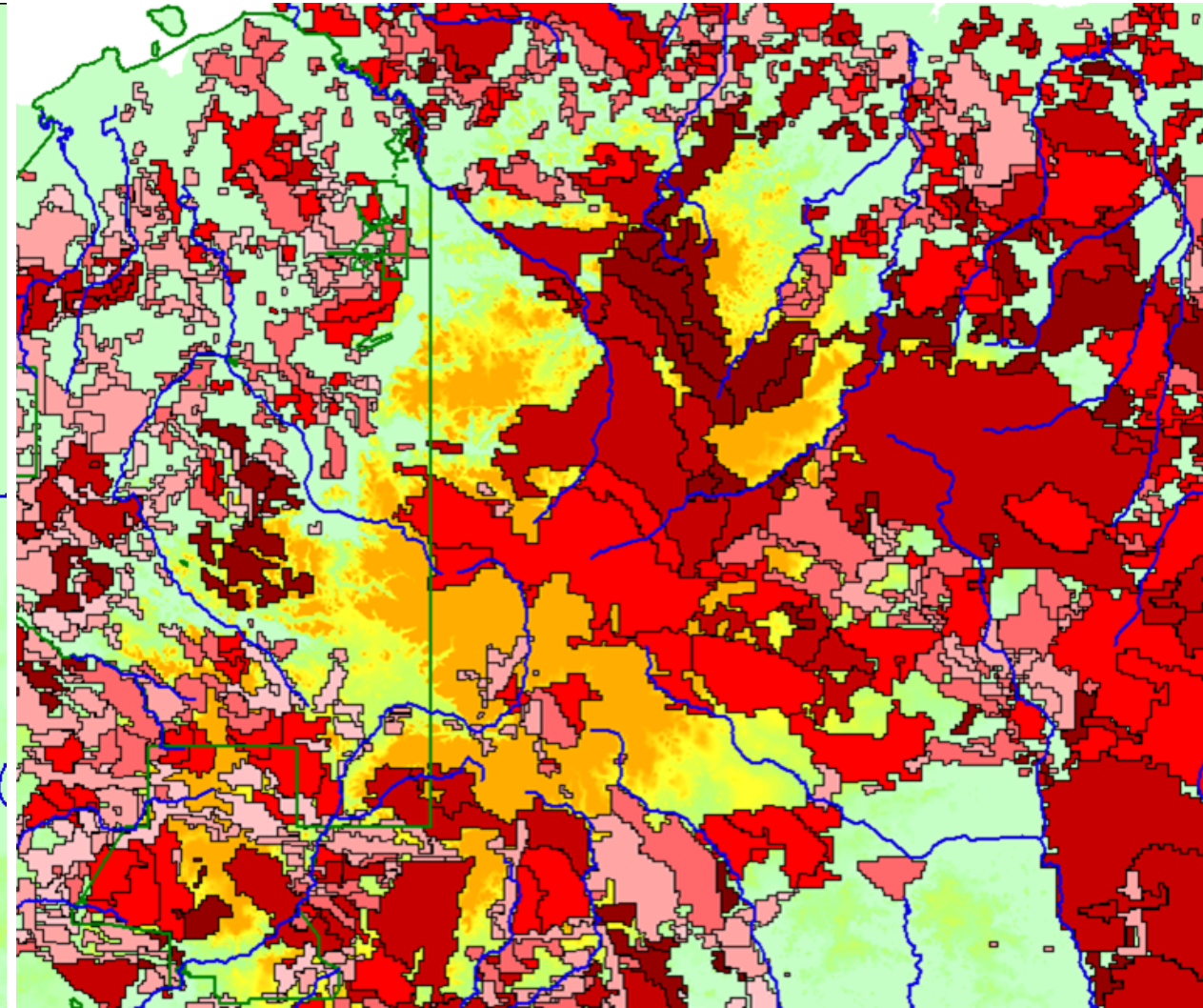
NT Endemic plant species



Fire scars May 1999

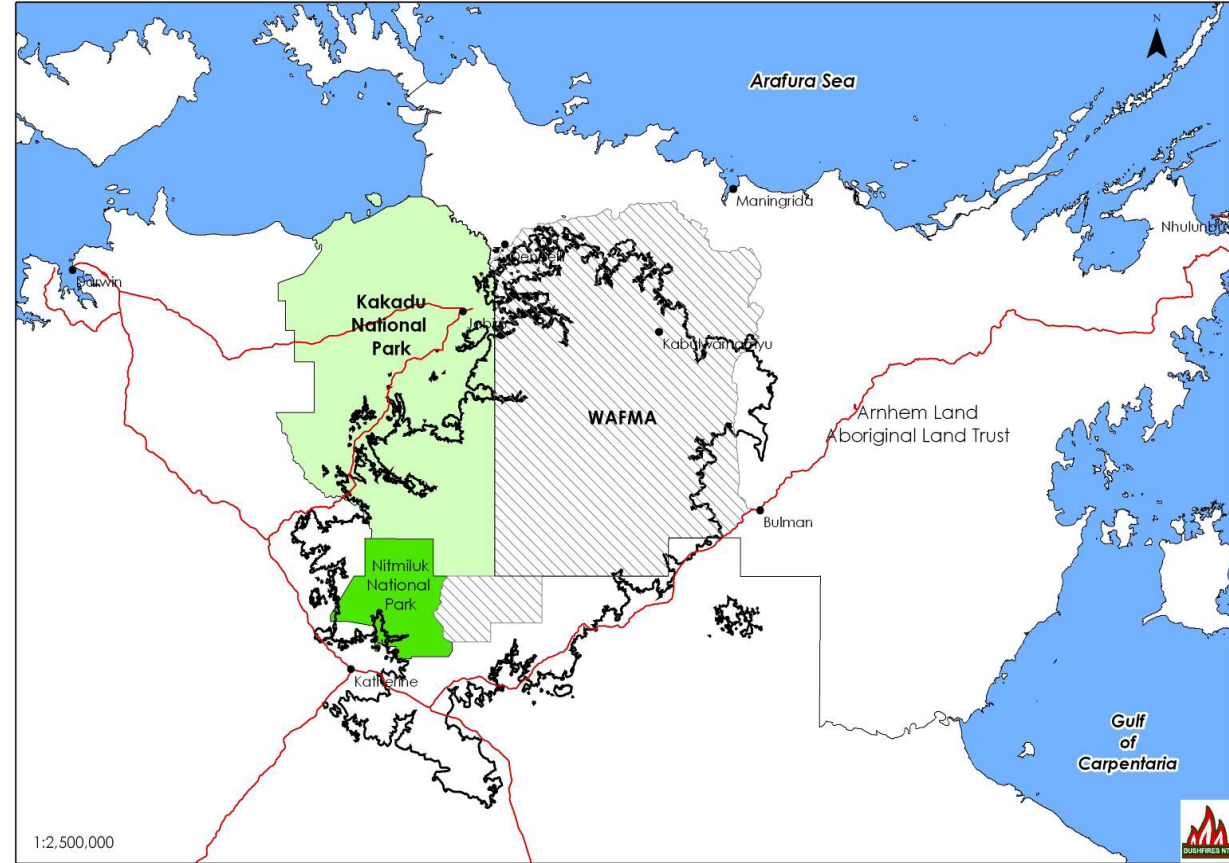


Fire scars for 1999





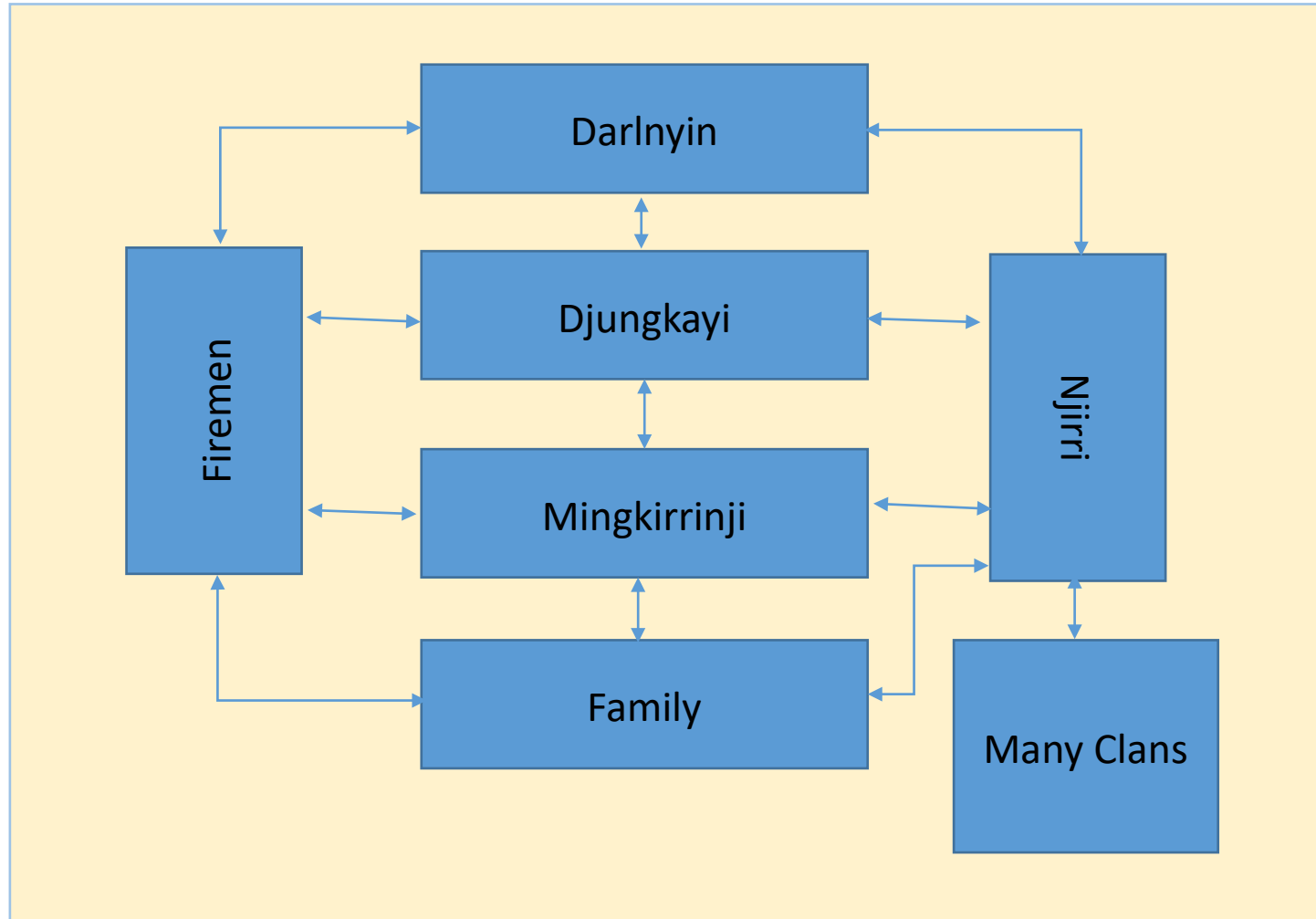
**ConocoPhillips LNG plant,
Darwin Harbour**



**28,000 km² WAFMA
area**



Traditional Aboriginal clan responsibilities for fire management *wurrk* in western Arnhem Land



Source: Sutton 2018



Project example—Western Arnhem Land (28,000 km²)

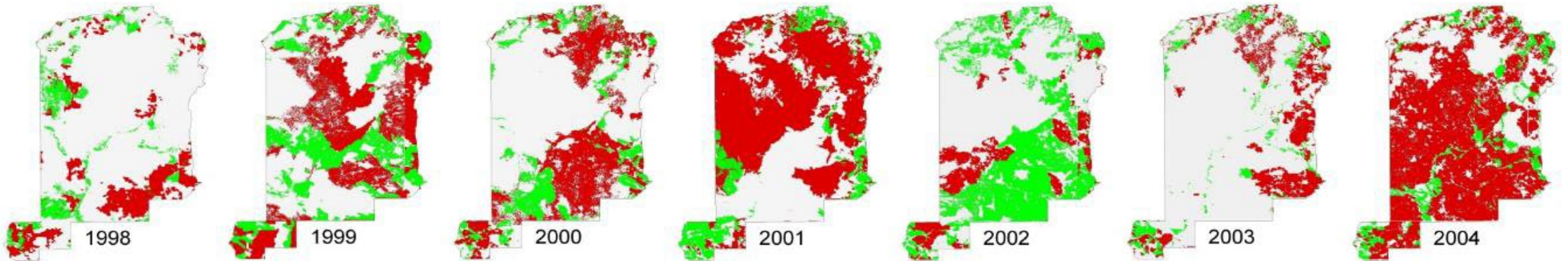
PRE-PROJECT 1998-2004



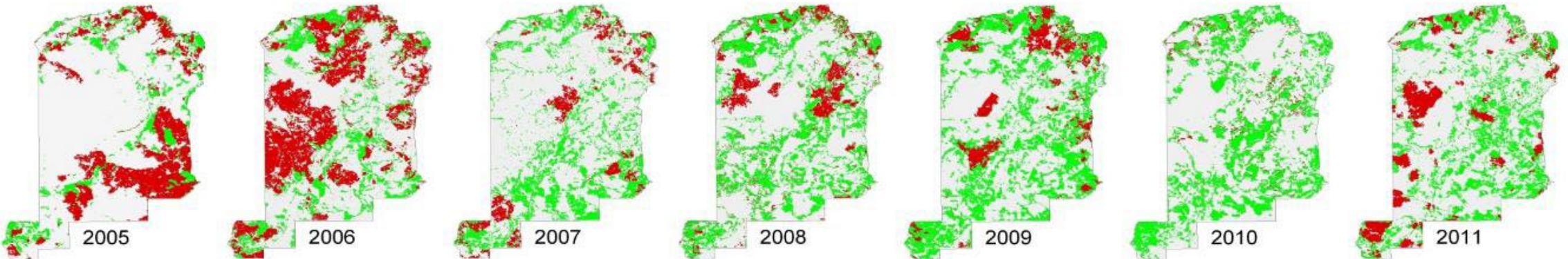
EDS



LDS



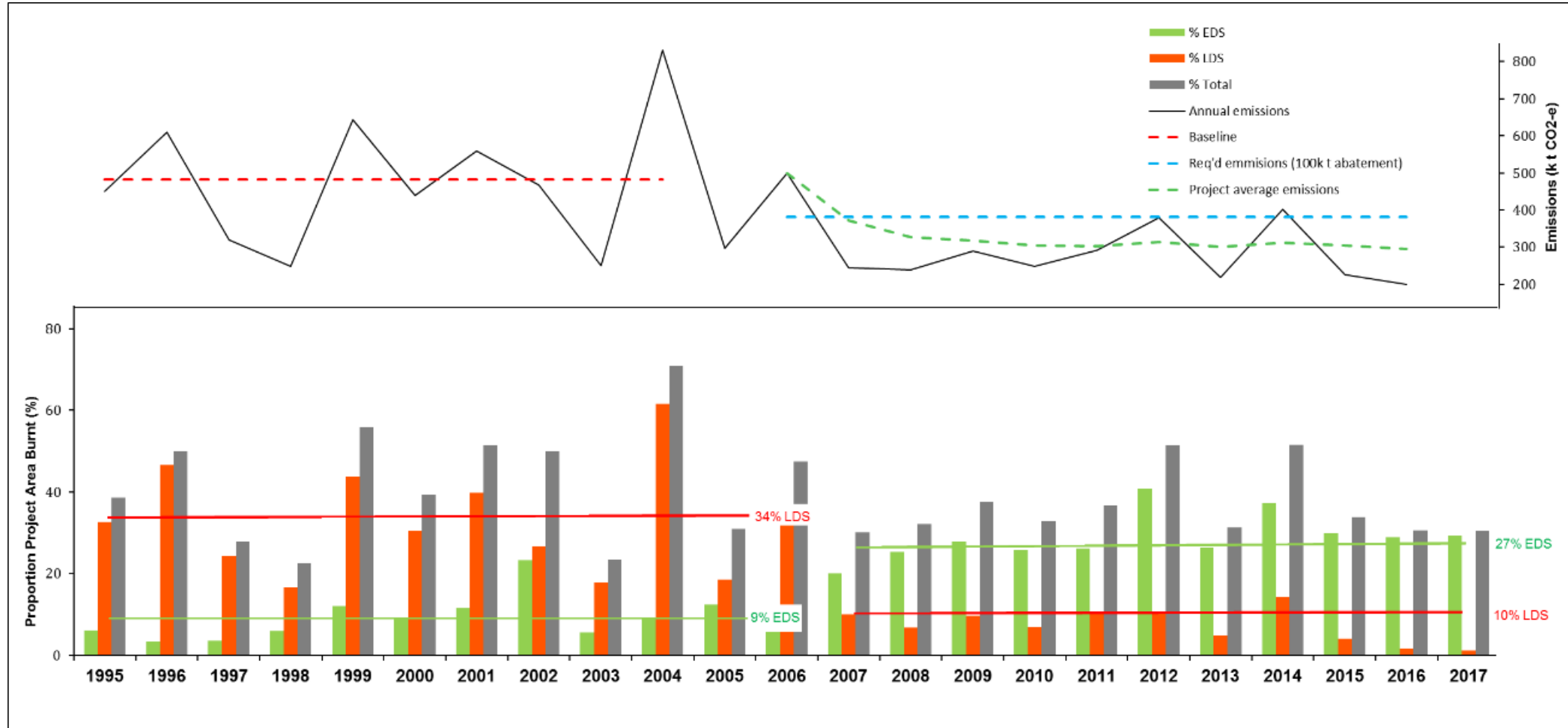
WITH PROJECT 2005-2011



Project example—Western Arnhem Land

Pre-project

With project



ERF-Registered Savanna Burning projects, Aug 2018

Covering 25% of 1.2M km² eligible northern savanna region

