

NATURAL CARBON

CYP Savanna Burning 2020

Comparison of EDS & LDS for Generic Land Management Types

Tuesday, 9 February 2021

Spotlight: CYP Savanna Burning 2020





Assumptions/Disclaimers

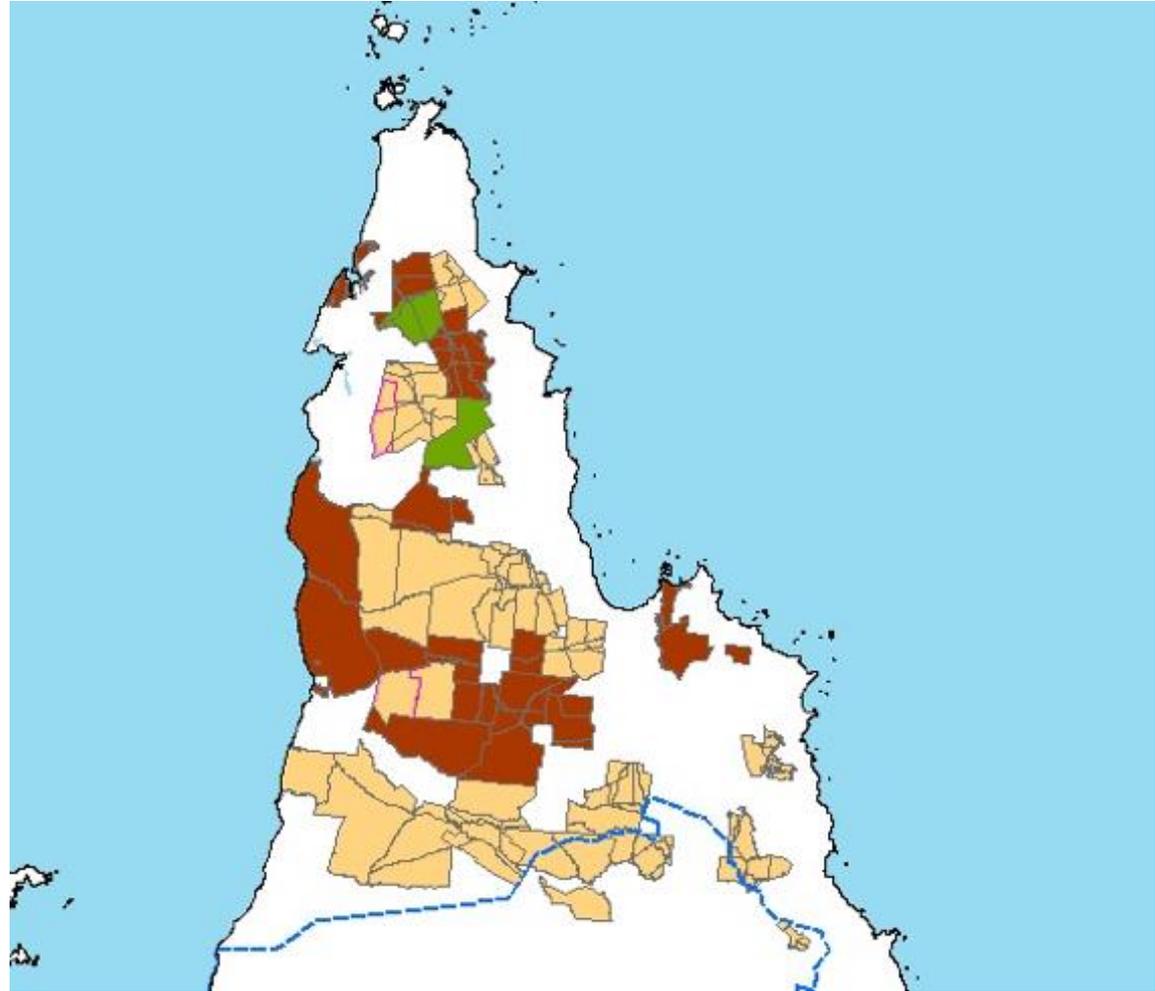
This was a brief study only, looking at 4 generic land management categories on Cape York Peninsula (CYP). The focus was not on individual properties or projects.

The intent of this presentation is to stimulate discussion around the importance of fire management intent in determining levels of carbon abatement. It is up to individual property managers to decide what is best practice for them and implement it. What is important is to learn lessons over time by using recent performance to re-assess priorities where appropriate.

The data analysis focussed on extracting general (not specific) trends since the adoption of ERF savanna burning projects on CYP, where projects first started in 2013.

Data was sourced from NAFI InfoNet. Note that EDS & LDS data could be analysed with more depth to determine monthly patterns and also where fires are rather than just when. SMERF metrics such as distance to unburnt that describe fire patchiness will be useful in better understanding trends in fire location.

CYP ERF Projects

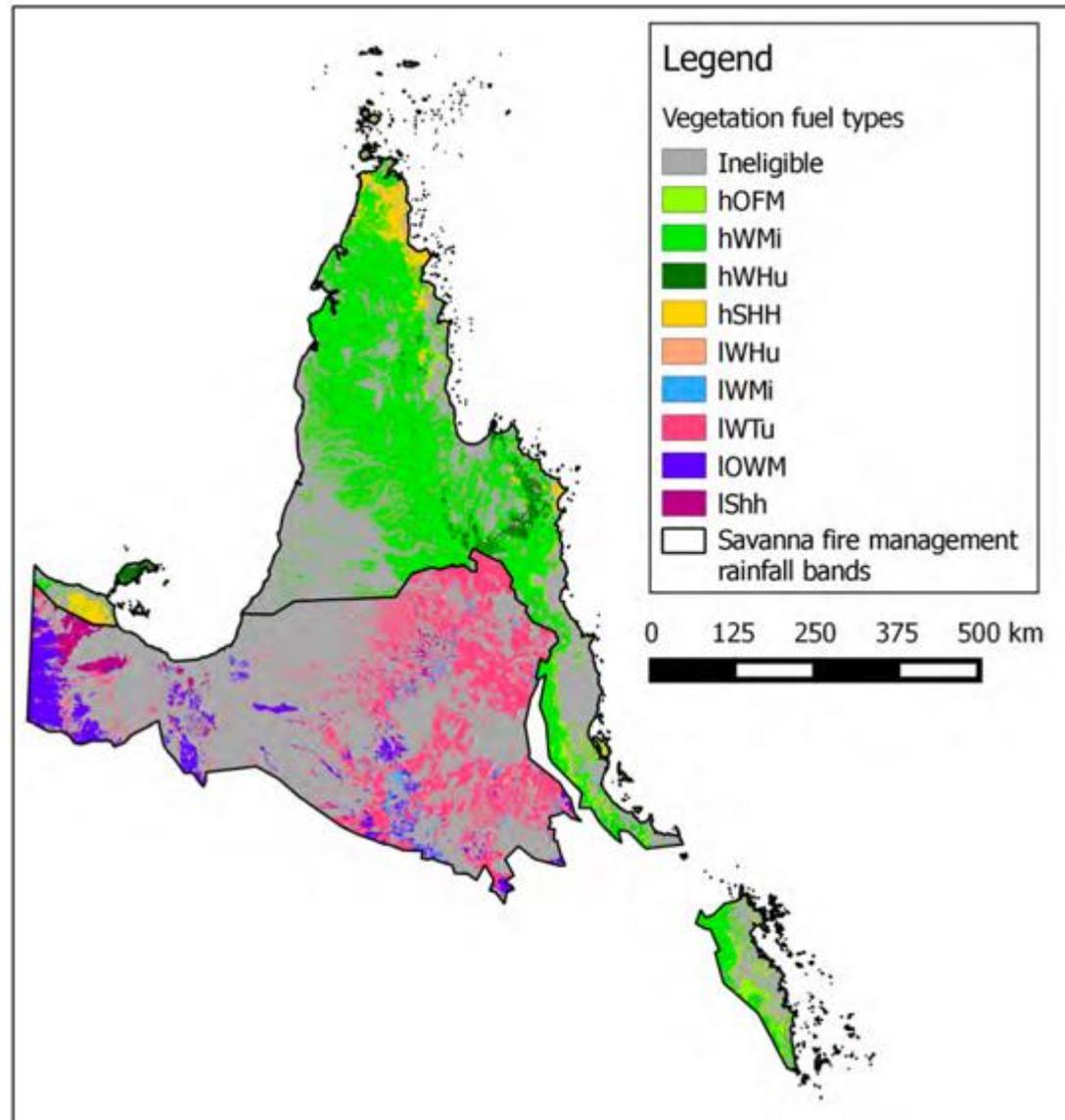




CYP ERF Veg Types:

Broad map showing rainfall isohyets & ERF Savanna Burning Method Vegetation descriptions.

Note: Not a lot of Eligible Vegetation in low rainfall zone around Gulf.





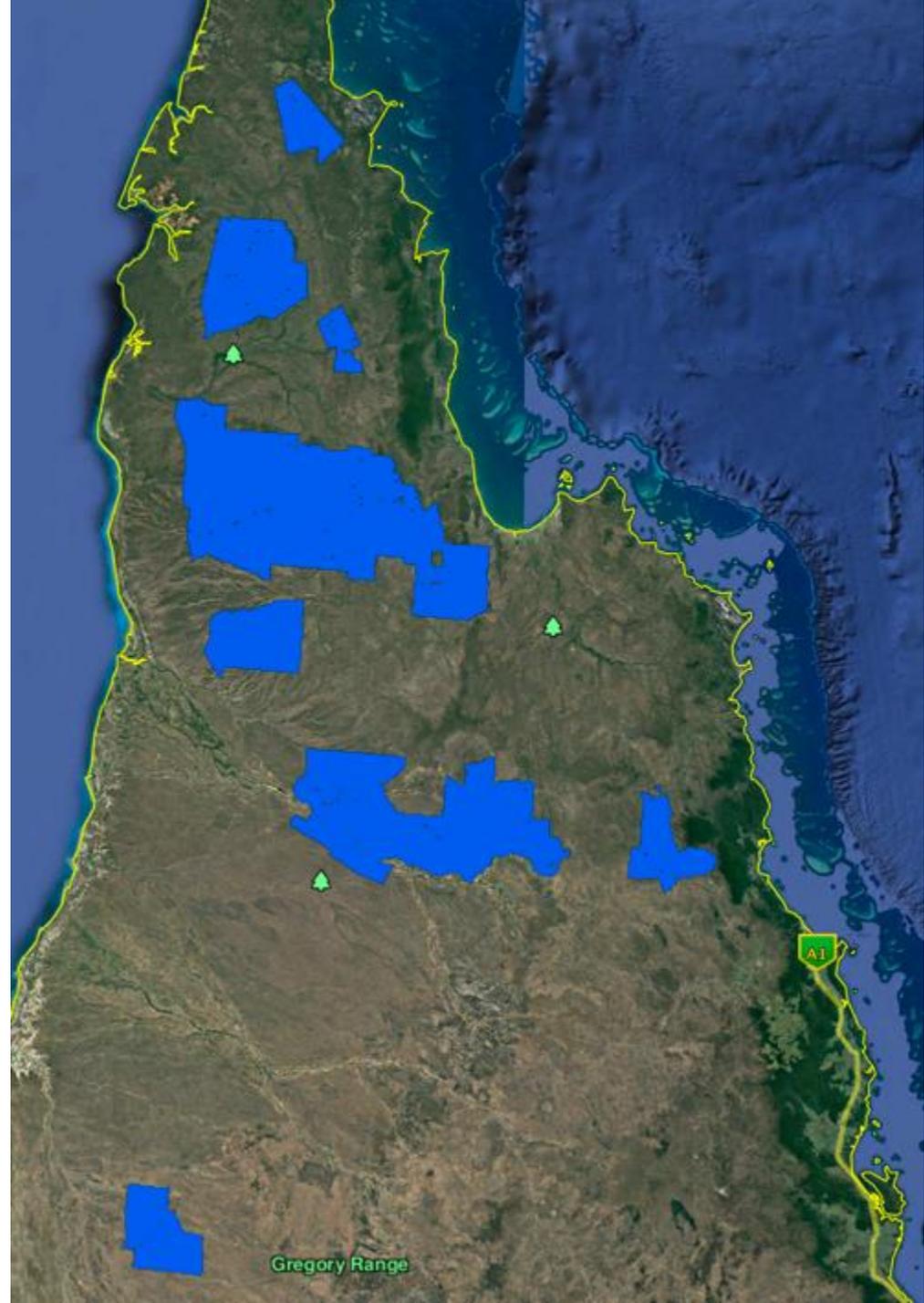
CYP1 PASTORAL:

36,508 km²

36.9% of Study Area

Comprises pastoral leases where cattle grazing is the dominant land use but *also* currently run a registered ERF savanna burning project.

Note: Excludes indigenous-run pastoral areas.





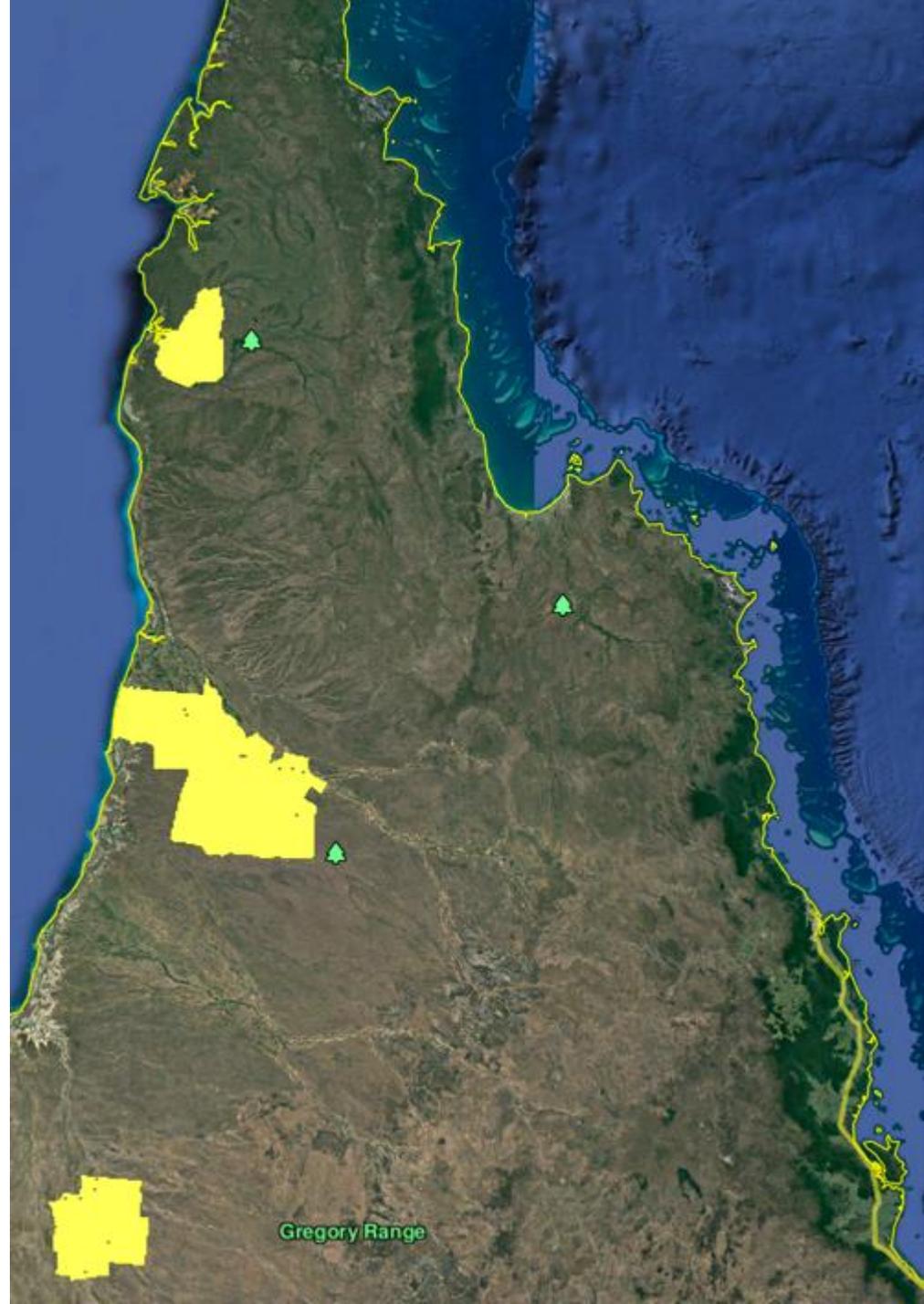
CYP2 NOT STARTED:

15,248 km²

15.4% of Study Area

A couple of ERF projects that are registered or very close to being registered, but have no active EDS fire management regime.

Note: Included in study due to recent LDS fire activity, projects close to starting.





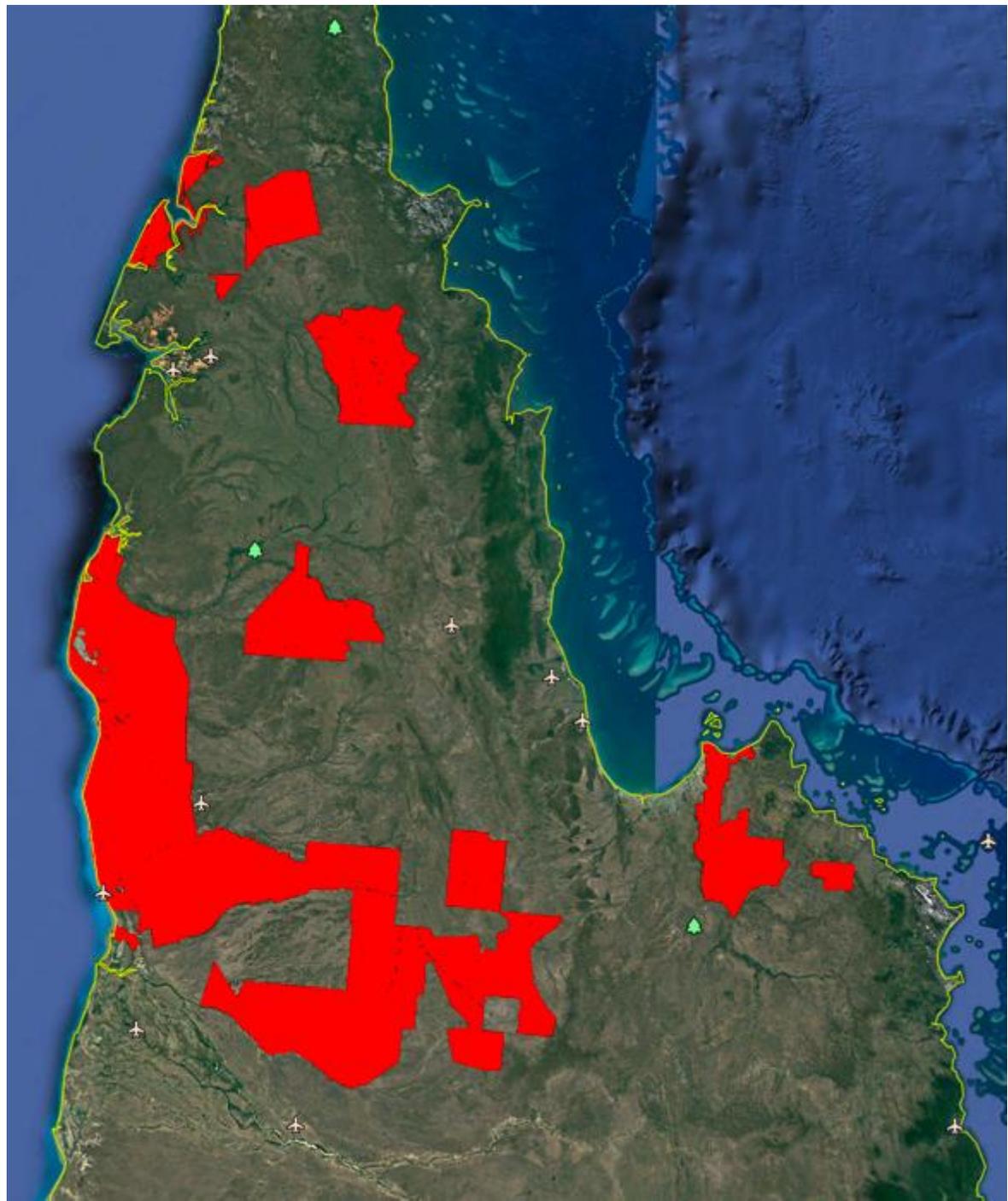
CYP3 INDIGENOUS:

25,378 km²

25.6% of Study Area

Comprises registered & currently operating ERF savanna burning projects run/managed *solely* by Indigenous groups, noting multiple entities are often involved in decision-making processes, such as RNTBCs, Aboriginal Corporations & Councils.

Note: Excludes CYPAL Joint Management Areas.



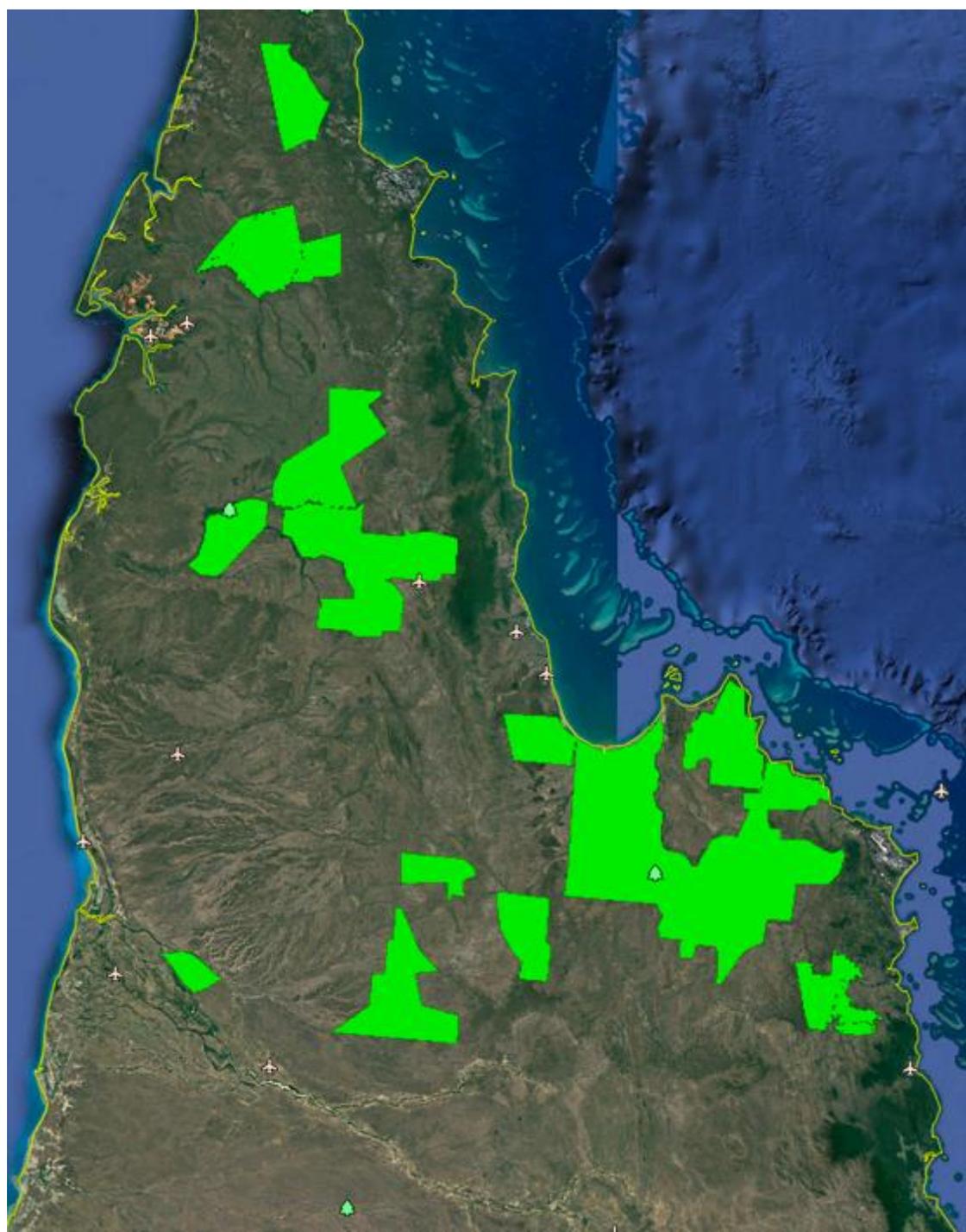


CYP4 CONSERVATION:

21,945 km²
22.1% of Study Area

Comprises areas managed primarily for conservation, with some level of current active fire management, *may or may not be ERF* projects, includes National Parks, private conservation reserve, some CYPAL JM Areas.

Note: This map layer takes precedence over

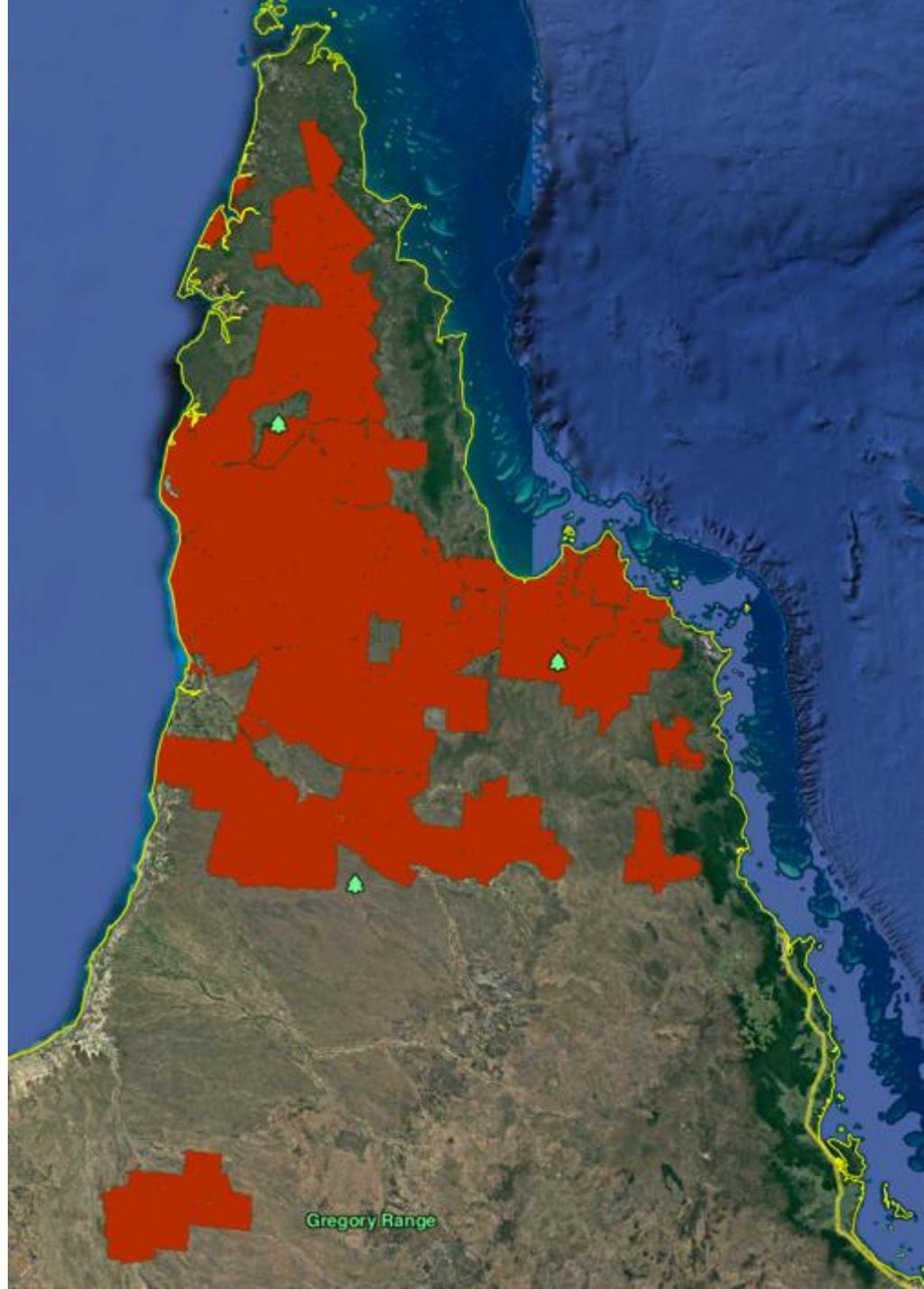




CYP5 AGGREGATE:

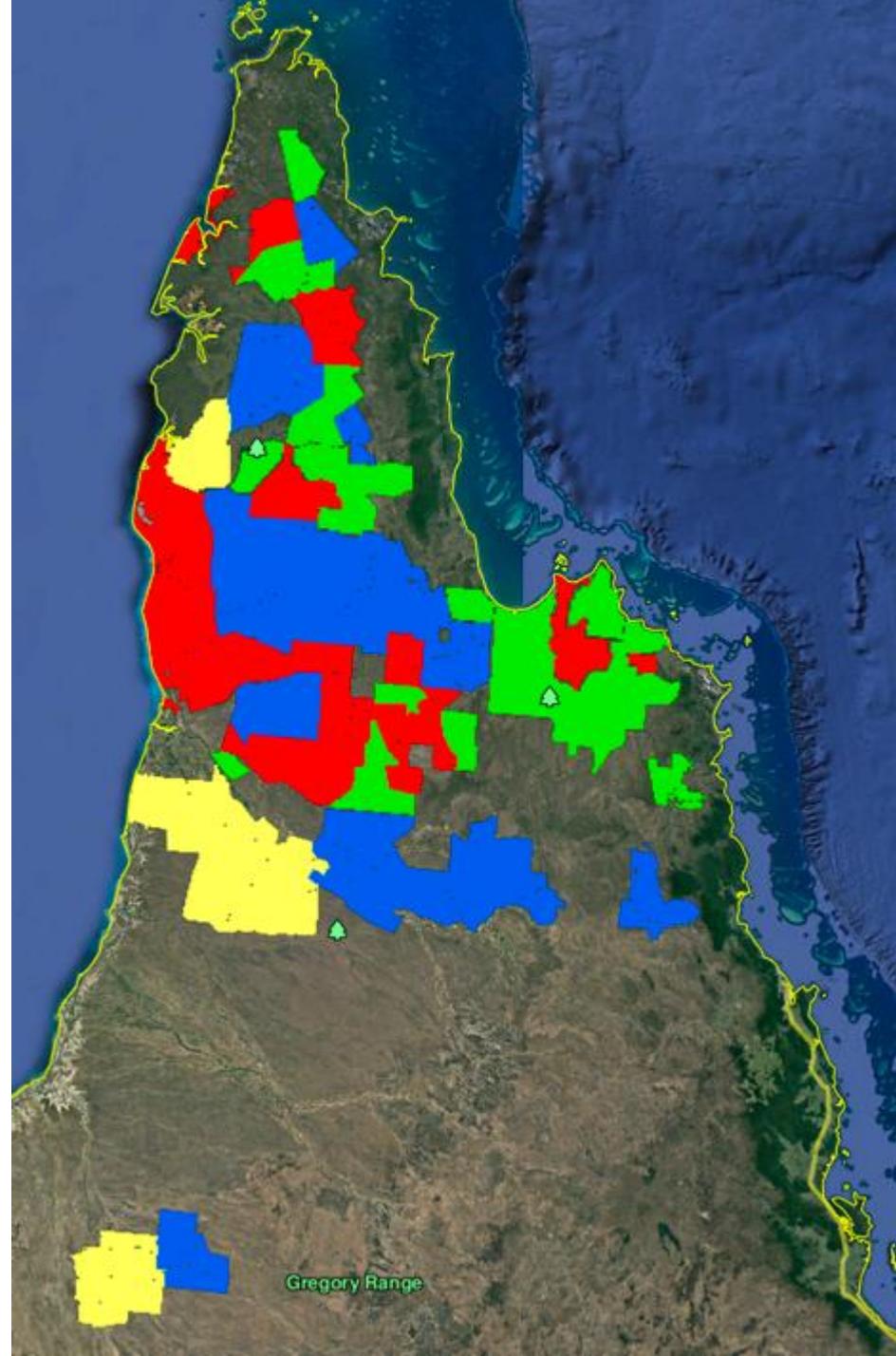
99,077 km² in aggregate

2,752 km² average project size



FULL STUDY AREA BREAKDOWN:

Used to aggregate EDS & LDS figures from NAFI InfoNet across the four different generic land management priority areas.





QFES Fire Permit



Permit to Light Fire

F 265748

The applicant for this permit acknowledges that he/she has made full disclosure of all orders, notices, notifications or restrictions currently affecting the land the subject of this permit, to the issuing fire warden at the time of making the application. The requirement to make disclosure is one of the conditions upon which this permit is issued.

I, JOSEPH CREW in charge of the CAIRNS PENINSULA
 Rural Fire Service Queensland Area / Fire Warden's District, hereby grant to: BATANG TRADITIONAL OWNERS ASSOCIATIONAL CORPORATION / LANA PAGLASE AS AGENT
 of: SITE 1, WATTLE HILLS ROAD SHELBURNE, 4892, Ph: 40603222
Street address Suburb/Town/Locality Postcode
 a Permit to Light Fire in the open on the following Lot No (s) and Plan No (s) AS PER FIRE PERMIT ATTACHMENT
Must be provided
 also known as: SITE 1, WATTLE HILLS ROAD
Address

for the specific purpose of: hazard mitigation, debris removal, wood control, pasture management, other: _____

Subject to the following conditions:

- A firebreak sufficient to prevent the spread of fire is to be in place. For this permit, breaks are to be: BAKE EARTH - GRADED OR NATURAL
slashed, mown, bare earth, natural, etc
 and to a width of: 3 metres.
- The fire is not to be lit if the wind is, or is forecast to be of a strength and / or direction to cause the spread of the fire beyond the planned boundary of the fire or, cause smoke to be a nuisance to a neighbour. For this permit, the fire is not to be lit if the wind is forecast to exceed 20 kph and / or is blowing from the N/A.
- There must be enough capable persons and equipment in attendance (see Note 1 below) to control the fire and prevent it's spread beyond the planned boundary of the fire.
 For this permit, there are to be 4 capable persons and the following equipment on site and in close attendance on the fire:
FIRE FIGHTING UNIT
- If the fire (or smoke) is likely to affect a road, precautions must be taken as follows: N/A
- The fire must not be lit before / after N/A am / pm or between N/A and N/A.
- To avoid nuisance and unnecessary QFES responses, the permit holder **must** notify Firecom on 1800 642490 immediately prior to lighting the fire.
- The local Urban / Rural Fire Brigade must be notified prior to lighting. The contact details for the brigade are: VIA FIRECOM
- The permit holder **must** have a copy of the permit in their possession before lighting and until the fire is out.
- After burning, the perimeter **must** be made safe and the fire patrolled until there is no longer any risk of the fire escaping.
- Other conditions: _____

This permit covers the period from: 9.7.20 to 30.7.20 Note: If the fire is not out when the Permit expires, the Fire warden must be contacted

Date: 9.7.20

Signed: _____ (Fire Warden)

Note 1. Persons must be physically and mentally capable to combat the fire and be close enough to take immediate action.

CSO 011 Version 09 March 2016 White - original Yellow - duplicate

Section 61, 62, Fire and Rescue Service Act 1990



COVID-19 Queensland Entry Pass



Remote Communities Pass

Date of issue: 27/04/2020

Reference ID: killin-156726

Personal details

Name:	Daryl Killin
Residential address:	c/-Cooktown Post Office, 123, Charlotte Street, Cooktown ACT 4895
Email:	daryl@killin.com.au

Reason for remote community travel

Travel exemptions:	In transit
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The information I have provided in this application is true and correct. I acknowledge providing false information in contravention of a determination is an offence under the Biosecurity Act 2015 (Cth) which may render me liable for 5 years imprisonment and/or a fine of up to 300 penalty units.

I declare:

- (1) I currently have no COVID-19 symptoms
- (2) I have not been overseas in the last 14 days
- (3) I have had no close contact with a COVID-19 sufferer in the last 14 days without appropriate personal protection
- (4) I am not entering a remote community for the purpose of breaking the law, and
- (5) My entry is not prohibited by any other law.



COVID-safe Record Keeping

Declaration of non-contact with anyone on the ground ("I did not come into contact with anyone within 20 metres on the ground")



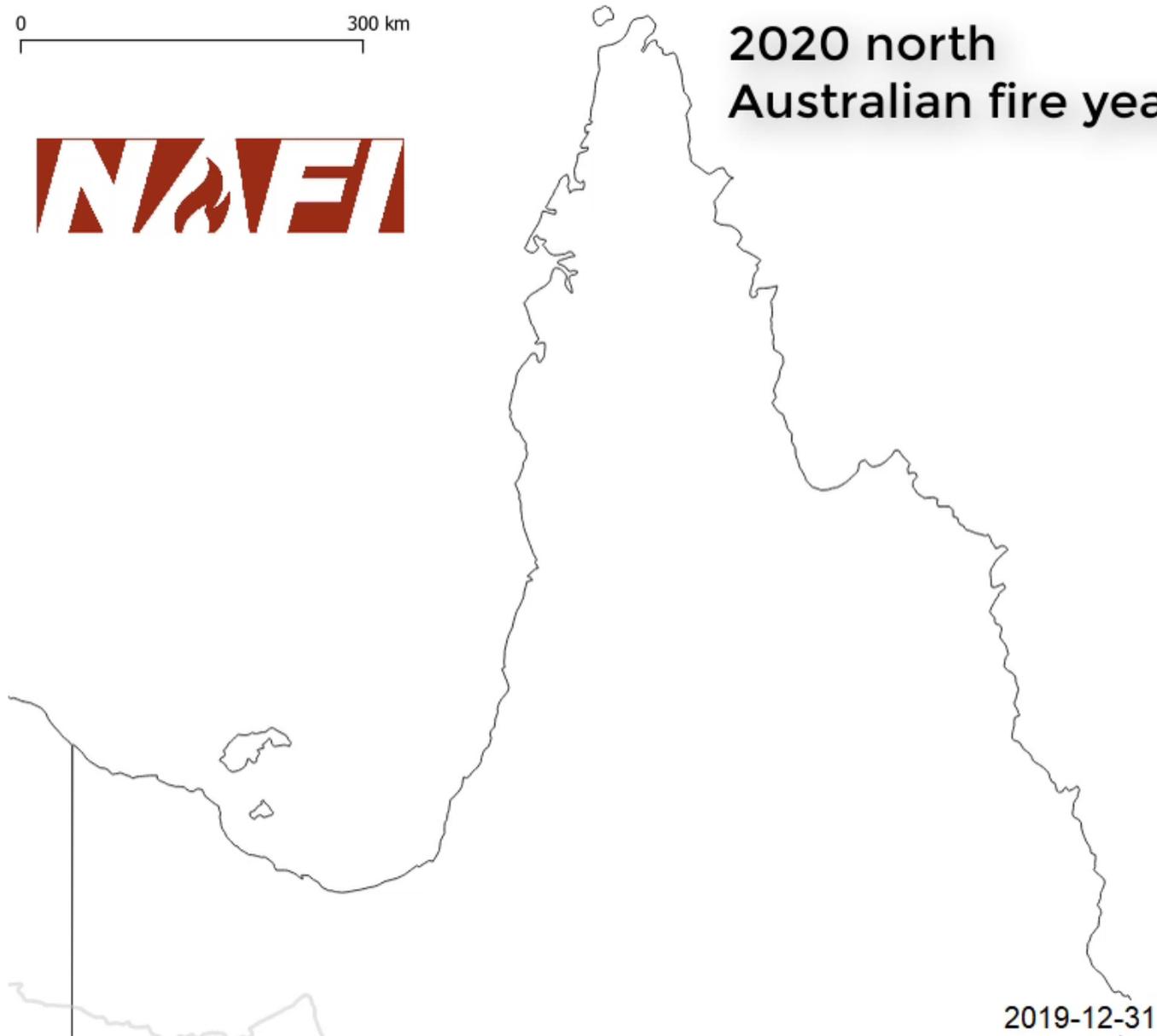
Mark Upham
24th Jul, 2020 11:32 AM AEST

Company Name	Airwork NQ
Declaration & Signature 2	
Declaration of non-contact with anyone on the ground ("I did not come into contact with anyone within 20 metres on the ground")	
Daryl Killin	
Company Name	Tropical Forest Tree
Note only social distancing was required after 10 July 2020	
Event 2	95%
Date and Time	22nd Jul, 2020 11:00 AM AEST
Worker/s Name	Daryl Killin
Worker/s Company name	Tropical Forest Tree
Insert Personal Temperature/s (Morning reading - in degrees celcius)	36.6
Insert Personal Temperature/s (Morning reading - in degrees celcius)	
Insert Personal Temperature/s (Morning reading - in degrees celcius) 1	
Name	Mark Upham
Temperature (degrees celcius)	36.4

0 300 km

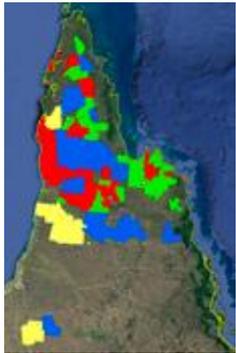


2020 north Australian fire year



2019-12-31

NAFI Data: 2000 – 2012 (Baseline) Period

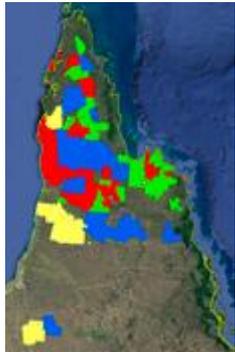


LM Category (y) vs Period (x) (NAFI InfoNet Data)	2000 - 2012 Baselines				
	EDS %	LDS %	% Unburnt	EDS: Unburnt	EDS: (EDS + LDS)%
CYP1 - Pastoral (non-indig)	9.0	40.3	50.7	0.18	18.3
CYP2 - Not Started (Close)	3.1	41.0	55.9	0.06	7.0
CYP3 - Indigenous Mgmt	10.5	51.5	38.0	0.28	16.9
CYP4 - Conservation Priority	11.4	32.1	56.5	0.20	26.2
CYP5 - Aggregate (All)	9.1	41.5	49.4	0.18	18.0

Baseline Notes:

EDS higher & LDS lower in Conservation (NP aerial burning started ~2007). Indigenous areas had higher LDS & lower Unburnt than other areas (noting their more westerly locations tend to cure later and affect the results).

NAFI Data: 2013 – 2019 ERF Project Period



LM Category (y) vs Period (x) (NAFI InfoNet Data)	2013 - 2019 ERF Projects Start				
	EDS %	LDS %	% Unburnt	EDS: Unburnt	EDS: (EDS + LDS)%
<i>CYP1 - Pastoral (non-indig)</i>	13.1	19.7	67.2	0.19	39.9
<i>CYP2 - Not Started (Close)</i>	4.2	36.1	59.7	0.07	10.4
<i>CYP3 - Indigenous Mgmt</i>	25.3	25.1	49.6	0.51	50.2
<i>CYP4 - Conservation Priority</i>	16.6	18.1	65.3	0.25	47.8
<i>CYP5 - Aggregate (All)</i>	15.8	23.2	61.0	0.26	40.5

ERF Project Notes:

Most significant increase in EDS on Indigenous projects.

LDS % have roughly halved in all categories (excl. Not Started).

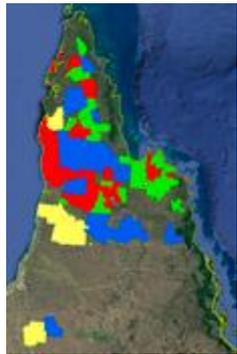
Unburnt in all categories (excl. Not Started) has gone up at least 10%.

Conservation Areas have the lowest LDS figures of all categories.

The ERF Savanna Burning Method works!



NAFI Data: 2020 Burning Season

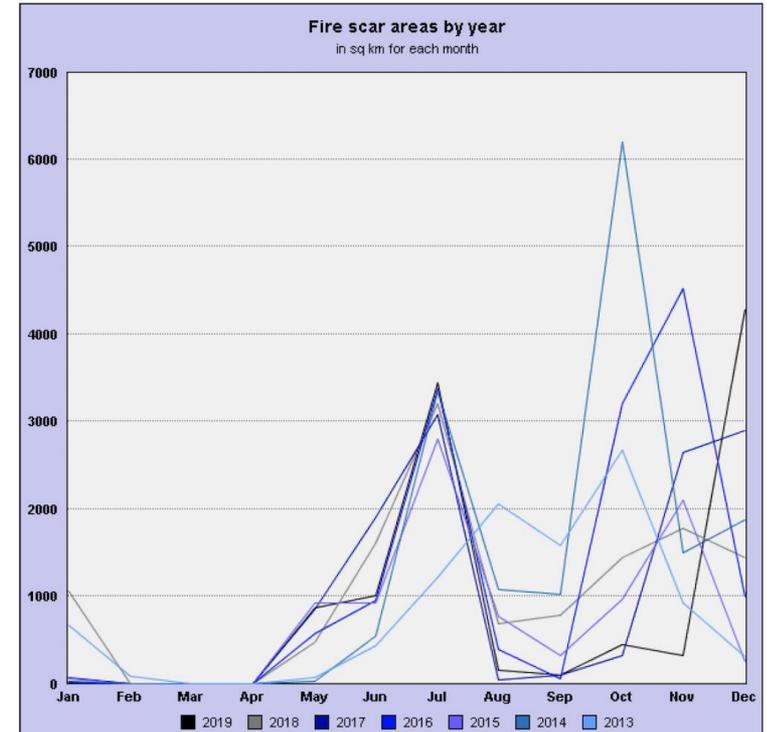
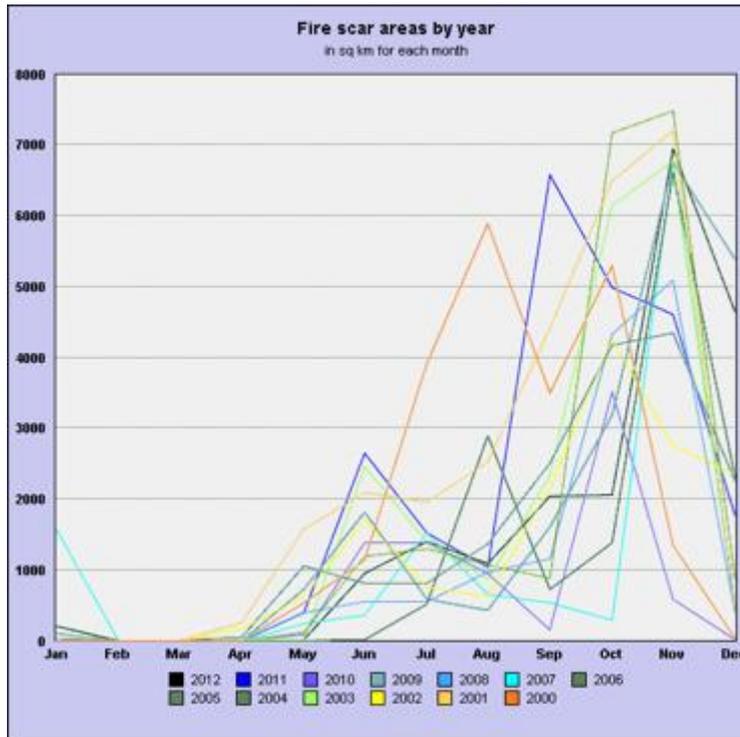


LM Category (y) vs Period (x) (NAFI InfoNet Data)	2020 Only Burning Season				
	EDS %	LDS %	% Unburnt	EDS: Unburnt	EDS: (EDS + LDS)%
<i>CYP1 - Pastoral (non-indig)</i>	16.2	13.9	69.9	0.23	53.8
<i>CYP2 - Not Started (Close)</i>	9.5	20.1	70.4	0.13	32.1
<i>CYP3 - Indigenous Mgmt</i>	33.5	17.5	49.0	0.68	65.7
<i>CYP4 - Conservation Priority</i>	21.9	16.0	62.1	0.35	57.8
<i>CYP5 - Aggregate (All)</i>	21.0	16.2	62.8	0.33	56.5

2020 Notes:

Bad fires in a few locations on CYP affected some of these figures.
New areas (outside of the map) burnt in 2020 that are not included in these comparative figures.

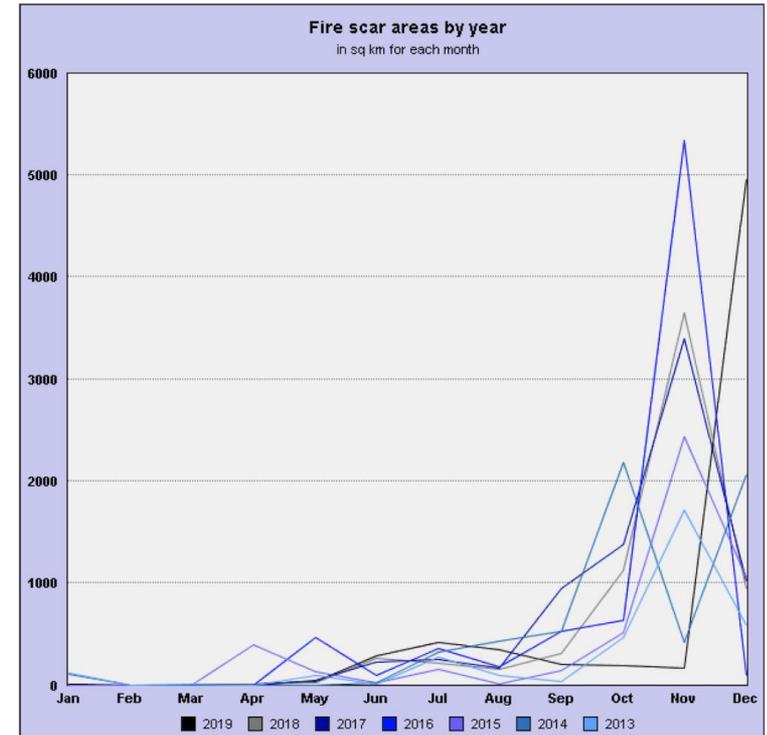
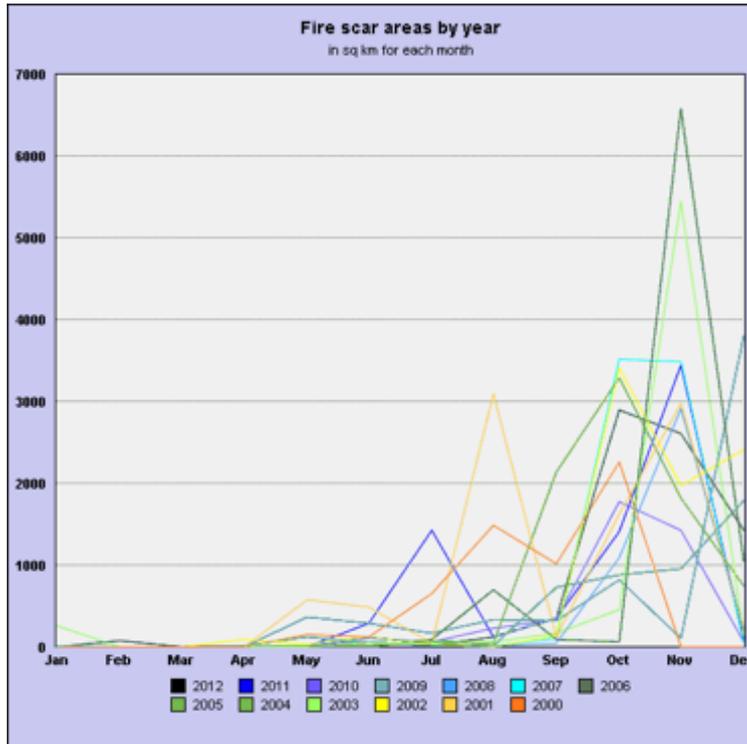
NAFI Data Results: CYP1 Pastoral M Curve



Pastoralist projects on average have successfully reduced LDS fires, often through allocating substantial resources to firefighting. Perhaps due to their high priority on keeping grass, they have the lowest EDS & LDS burn ratios (per eligible veg), whilst still lowering emissions. Their location in the central spine of CYP means they can take advantage of earlier curing times.



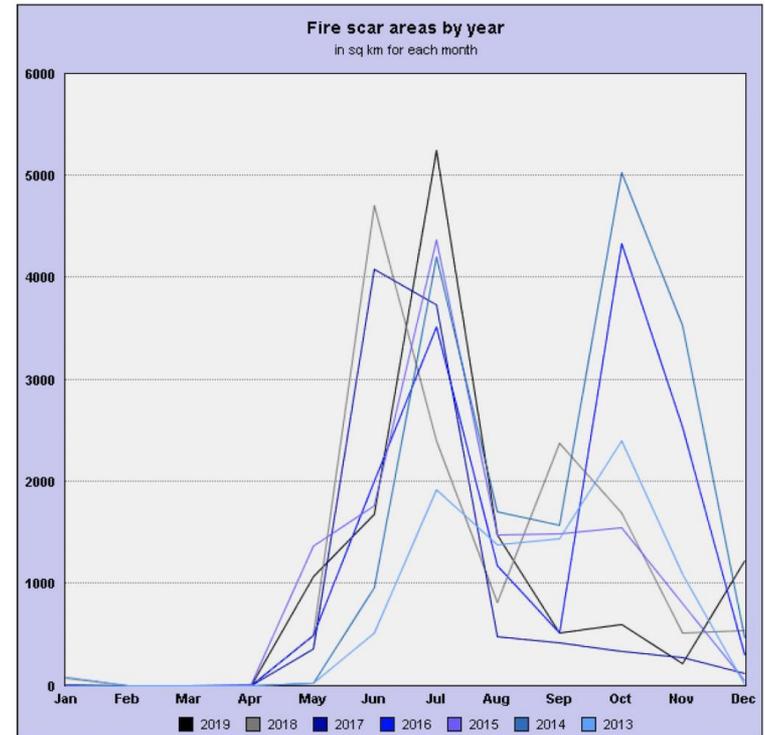
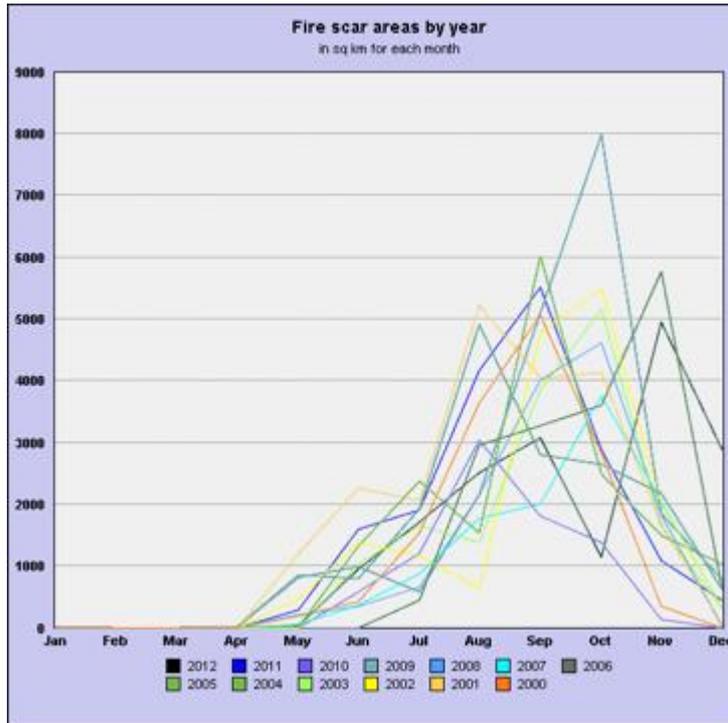
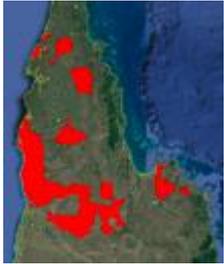
NAFI Data Results: CYP2 Not Started M Curve



Projects yet to start have had no material impact on either EDS or LDS ratios. They are a good reminder of the (relatively) poor fire management outcomes that existed prior to the start of the CYP carbon abatement industry. They also prove that the ACCU price signal works very effectively as a mechanism to support better fire management.



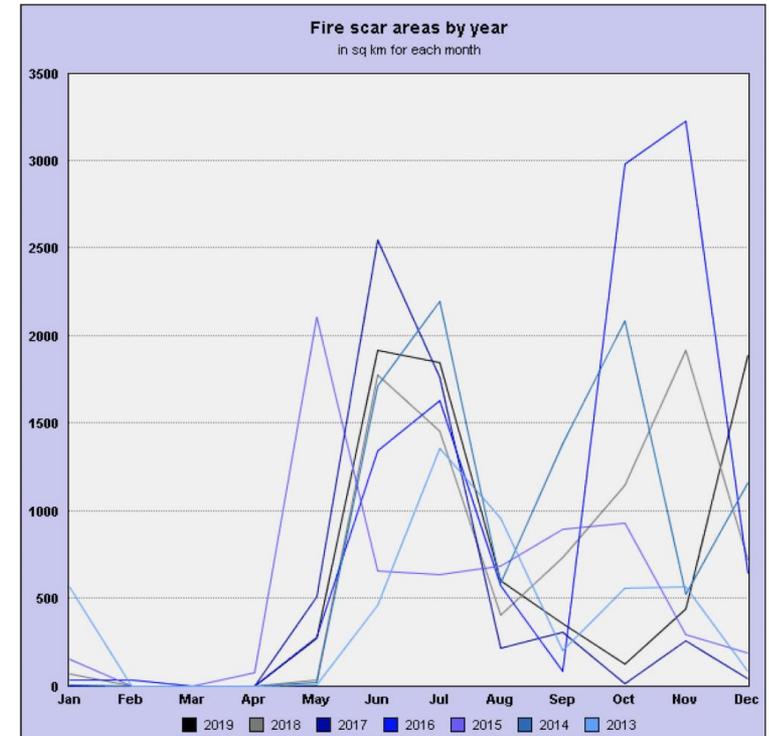
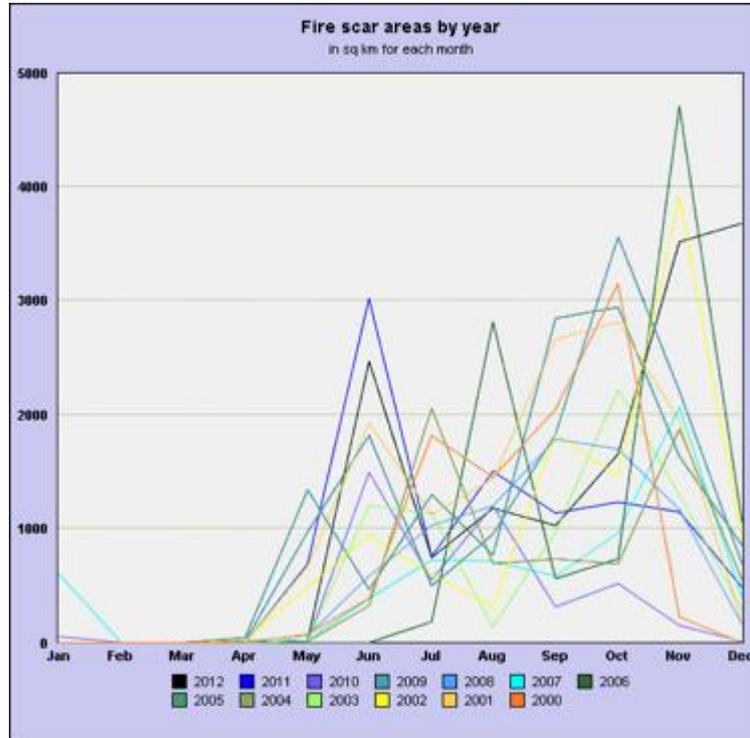
NAFI Data Results: CYP3 Indigenous M Curve



Since ERF commencement, Indigenous projects have successfully lowered emissions. On average, they have higher EDS & LDS ratios & lower unburnt ratios than all other land management categories (apart from Not Started). In recent years, some areas have over 40% EDS – is this too high? There is also a growing interest in supporting storm burns for looking after country.²¹



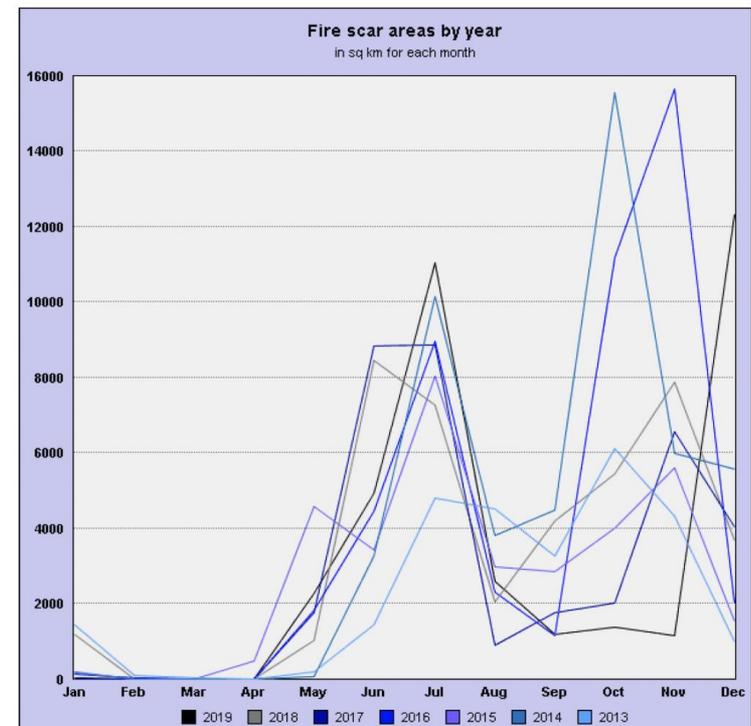
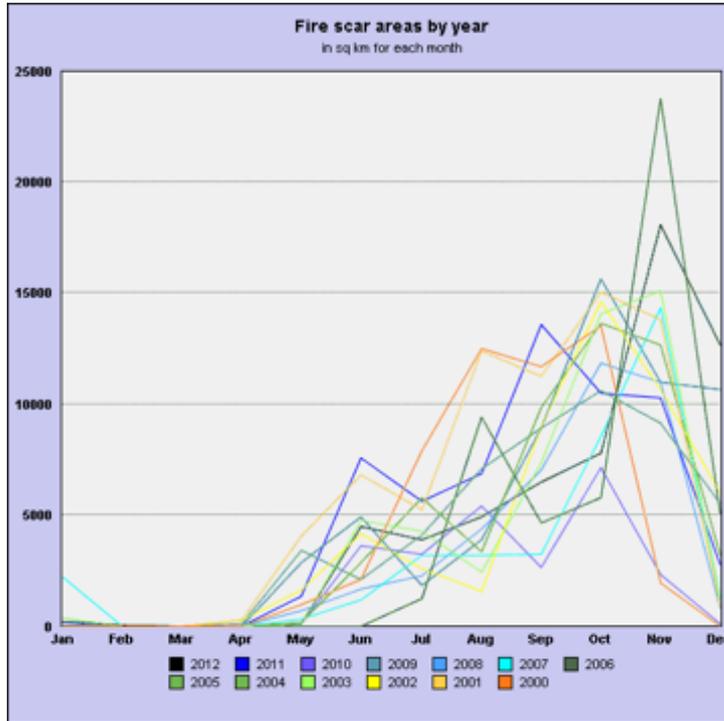
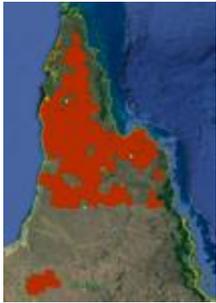
NAFI Data Results: CYP4 Conservation M Curve



On average, areas managed primarily for conservation have been undertaking proactive fire management for longer than the other categories, with some areas starting aerial incendiary programs from 2006 - 2010. Since 2013, they have a much lower EDS ratio than Indigenous projects (noting that some areas include JM).



NAFI Data Results: CYP5 Aggregate M Curve



The aggregated data proves that CYP projects have strongly shifted the EDS & LDS fire ratios over a relatively short period of time. There is now very little fire in Aug & Sept on CYP. We still have work to tackle LDS wildfires, but also to support storm burns to achieve non-carbon ecological/cultural objectives.



Final Thoughts & Lessons Learnt

The consistent appearance of both sides of the “M Curve” across all tenure types and across a number of years suggests that ERF savanna burning projects, whilst successfully undertaking early dry season burning, still have some work to do in order to reduce the extent and impact of late dry season fires. In order to reduce late fires, projects will need to work together more to support coordinated fire-fighting efforts across all tenure types.

The fact that the 2018 Savanna Burning Method has low uptake may be another factor – if this method was adopted by more projects, then there would be a financial incentive to fight more LDS fires. However, most projects are so far unwilling to transition due to the extra costs and also the reduction in the emissions reduction component of their carbon abatement.

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