WWF for a living planet®

Save the Gouldian Fund

Draft strategy for the conservation of the Gouldian finch in the Kimberley region

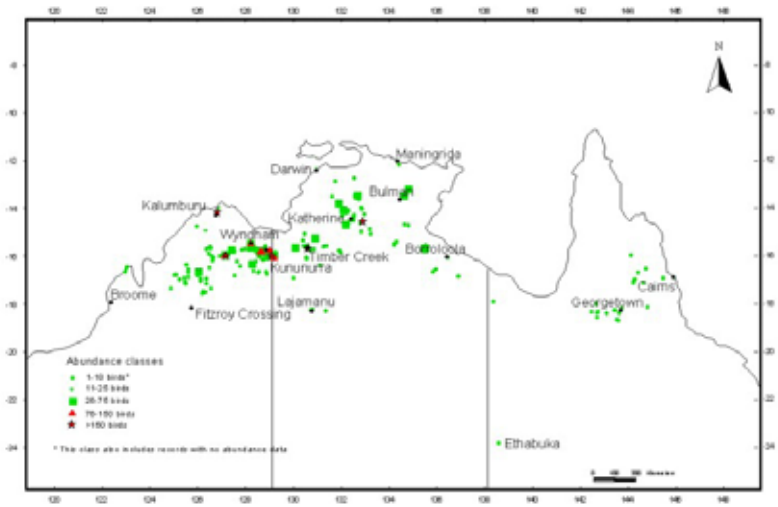
1. Background

Gouldian finch status

The Gouldian finch is an endangered seed-eating bird - one of several granivore species occurring in the northern savannas that have declined dramatically since the onset of European settlement. Large flocks of up to a thousand of these brightly coloured small birds used to be a regular feature of the northern savanna landscapes from Queensland to the Kimberley; however Gouldian finches have all but disappeared from the wild in Queensland, and now exist in a number of small populations in the Northern Territory and Kimberley region of Western Australia. Population estimates at the best-studied site in the Yinberrie Hills near Katherine suggest that fewer than 250 adult birds survive through the wet season to breed in the following dry season, and it appears that numbers fluctuate significantly between years dependent on the previous season's rainfall or wildfire pattern.

Gouldian finches formerly ranged from Cape York Peninsula in Queensland, through the Top End of the Northern Territory, to the Kimberley region in Western Australia and were once believed to be amongst the most common finches of the region. Within the last one hundred years Gouldian finch populations have undergone significant population declines and a contraction of their known range so that now the species is recorded reliably only at a small number of sites within six Northern Territory and Western Australia bioregions (Map 1), while in Queensland Gouldian finches are now very rarely seen in the wild.

Map 1. Records of Gouldian Finch Sightings (1993-2005)



Source: "Recovery Plan for the Gouldian Finch (*Erythrura gouldiae*) 2005-2010" 2005

The impacts of fire and grazing

Vegetation change through inappropriate fire regimes and grazing impacts of stock and feral herbivores are the factors most likely to be contributing to ongoing declines, or absence of recovery, in Gouldian populations.

The contemporary fire regime in northern Australia is dominated by frequent, extensive, hot, late dry season wildfires, with large tracts of the region burning every year. This regime is believed to differ markedly from that imposed by Aboriginal people prior to European settlement, when fire was used regularly to manage country so that a more patchy pattern of smaller burns existed, and single fires were less likely to travel hundreds of kilometres as they do today. The current fire regime is believed to be detrimentally affecting a range of species, including granivorous birds, fire-sensitive plant communities, and a suite of medium-sized mammals.

Fire is known to affect seed productivity in key wet season grasses that Gouldian finches rely on to tide them over the resource bottleneck period that occurs early in the year. Both cockatoo grass and curly spinifex seed production is reduced in areas burnt in successive years. Fires can also affect the availability of tree hollows for nesting, and Gouldian finches tend to avoid hollows that have been burnt.

There is some evidence supporting a link between Gouldian population persistence and the maintenance of heterogeneous fire patterns in landscapes – either due to management intervention or due to topographic features that restrict the spread of wildfires.

Grazing intensity has been shown to be correlated with granivorous bird decline across the northern savannas, and data suggest that the negative impacts of grazing may be worse where pastoral settlement occurred earlier, as in Queensland (Franklin et al. 2005).

Key Gouldian finch wet season grasses - cockatoo grass and golden beard grass - are selectively grazed by cattle and horses, which negatively impacts seed production in these species. Feral pigs have also been shown to cause significant damage to patches of cockatoo grass in the Yinberrie Hills, and both cattle and buffalo can reduce or degrade waterholes used by Gouldian finches in the dry season by trampling and eating surrounding vegetation.

Intent of project

The key conservation outcomes that will be achieved by this project in the next three years are (1) more appropriate fire regimes in the focal area and (2) a measurable increase in Gouldian finch populations in the focal area.

The focal area to be targeted by this project will be defined by April, 2008, based on stakeholder discussions in the Kimberley in late March 2008. Further detail is provided on preliminary thinking as to the target area in Appendix 1.

This strategy is driven largely by the information, objectives and actions outlined in the Recovery Plan for the Gouldian Finch (*Erythrura gouldiae*). Its primary purpose is to describe WWF Australia's strategy for the conservation of the Gouldian finch focusing on the east/central Kimberley region.

Ensuring the sustainability of this project beyond the duration of three years is important. An assessment of the first two years will be taken as appropriate with a view to ensuring that the outcome is sustainable in the long term and replicating the results.

In partnership with the Save the Gouldian Fund, we aim to achieve the following vision in the next three years:

2. Vision

To improve the national conservation status of the Gouldian finch through improvements in population trends, focusing on the east/central Kimberley region and the key threat of altered fire regimes.

3. Objectives

1. To implement improved grazing, feral herbivore and fire management systems in partnership with other stakeholders at key properties in the Kimberley region.

Indicator: Analysis of satellite fire maps in focal area indicate a reduction in wildfire extent

2. To use scientifically robust monitoring to demonstrate increases in populations of Gouldian finches in the region where WWF management is targeted.

Indicator: Analysis of Gouldian finch population in focal area indicates stability or an increase

4. Actions

These objectives will be achieved through the following actions:

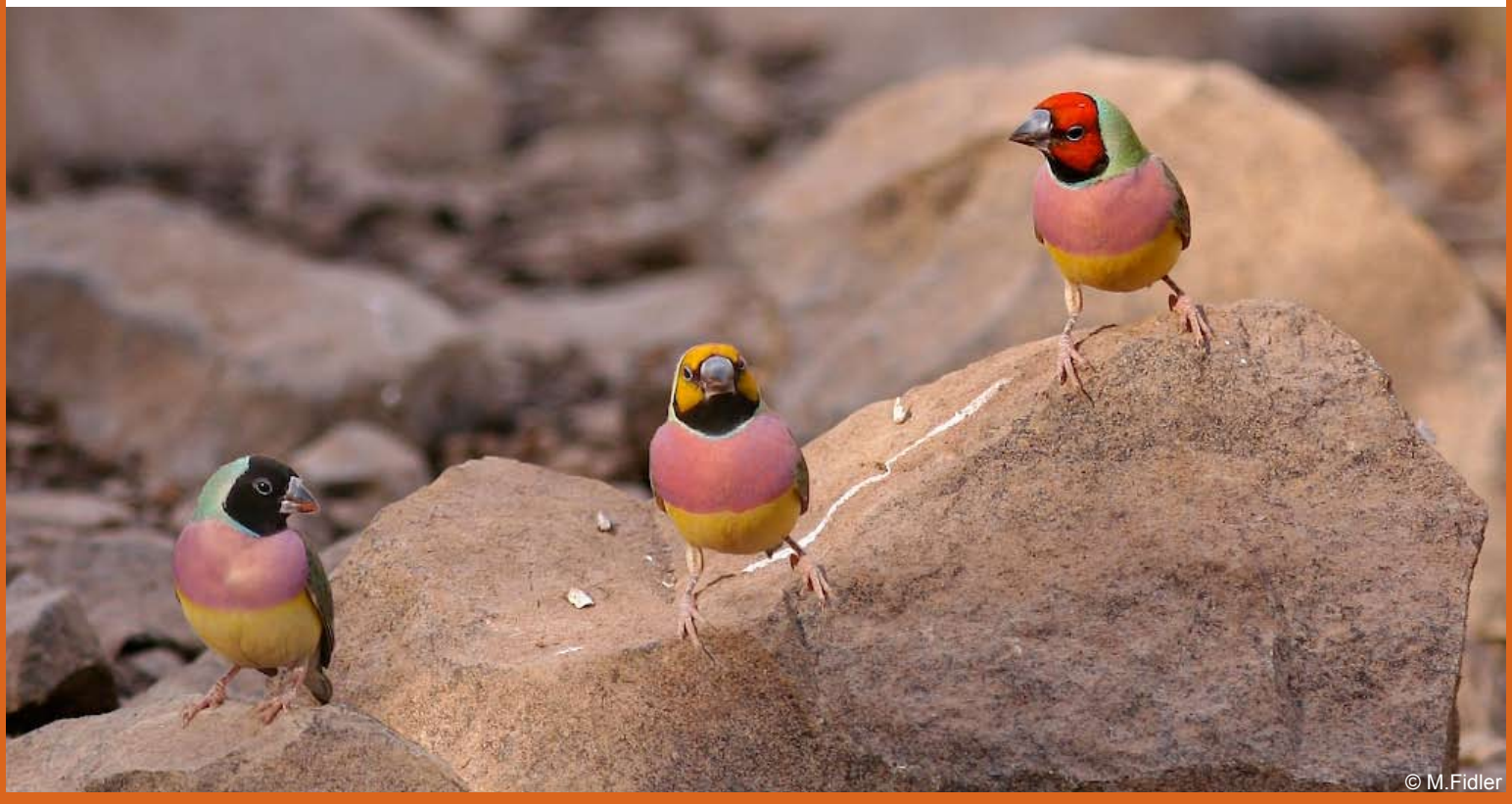
1. Select properties to target for involvement in the fire management project.
    - Selection of properties will be based on:
    - Suitability of habitat for Gouldian finches
    - Current fire management regime on property and potential for improvement
    - Properties proximity to each other (adjacent properties will be favoured)
    - Willingness to become involved in project
    - Consideration for the geography of current fire projects (recognising the need to build on, not duplicate other efforts)
2. Engage land managers of selected properties in proactive fire management that will benefit the Gouldian finch via both initial personnel conversations, followed up by a community forum (likely to be held in Kununurra) to gain local/joint support.
3. Once properties and stakeholders have been identified and commit to the project, develop an agreed fire management plan for the region, to be developed in collaboration with the Gouldian finch co-ordinator.
4. Implement early dry season fire management plan for 3 years.
5. Annually monitor Gouldian populations' responses to the fire management at selected sites. Sites will be selected based on the best available science (CSIRO modelling).
6. Report on the management actions and make the Gouldian finch numbers public and distributed to the stakeholders involved and also the wider community.

5. Budget

An indicative budget is $105,000/yr for a 3 year period.

This is based on a salary of approx $55,000 -$60,000 plus super/admin for a coordinator, and an operating budget of approximately $25,000/yr for implementing the fire management plan.

It is also likely that some funds will be required to facilitate planning workshops each year. The amount for this will be determined by the number of stakeholders who wish to be involved. Facilitating planning workshops is generally considered the most appropriate method of getting community support for regional fire plans.



6. Timeline – June 2008 to June 2011

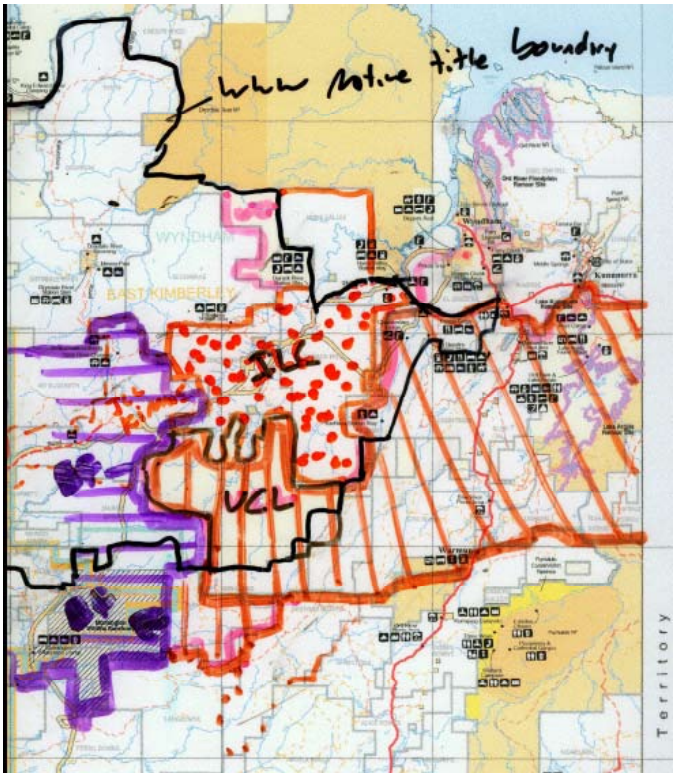
- Preliminary: April 2008 – region/properties identified; contact with land managers established and land manager support obtained; selection of focal area for project
- June 2008 – financial support for project begins (until June 2010)
- July 2008 – Gouldian finch coordinator employed
- September 2008 – Gouldian finch co-ordinator to instigate initial Gouldian finch survey work at key waterholes throughout region to gather baseline population numbers.
- November 2008 – commence analysis of population data
- December 2008 – reporting and preliminary update to project sponsors and stakeholders
- February 2009 – all fire management planning with region has been undertaken and agreed to
- April 2009 – implementation of fire management regime
- June 2009 – fire management plan has been implemented throughout region; project update to sponsors and stakeholders
- September 2009 – Gouldian finch waterhole counts
- November 2009 – analysis of data and satellite fire maps
- December 2009 – reporting and project update to sponsors and stakeholders; assessment of progress to date in relation to the next stage of the project beyond June 2011
- April 2010 – implementation of fire management regime
- June 2010 – project update to sponsors and stakeholders; planning for project sustainability beyond June 2011
- September 2010 – Gouldian finch waterhole counts
- November 2010 – analysis of population data and satellite fire maps
- December 2010 – reporting and project update to sponsors and stakeholders
- April 2011 – final implementation of fire management regime
- June 2011 – final report to all stakeholders, including production of a DVD, key statistics and photographs; final project update to sponsors and stakeholders

A communications plan will be developed separately, bearing in mind that opportunities will be sought to optimise publicity for this species, the threat and the work being done during the course of the 3 year project.

Appendix 1: Working Draft for Discussion – Preliminary Planning

The figure below is a preliminary map of the WWF Gouldian finch project's boundaries, to be refined following Kimberley fire meeting 25-27th March, and results of CSIRO Gouldian habitat suitability modeling project. The boundaries are flexible and could change depending on opinions of stakeholders. This map was drawn by considering:

- Gouldian finches' past and current range
- EcoFire project boundaries
- The SFM North Kimberley fire project boundaries
- Current WWF involvement with Karunjie and Durack River properties
- Native title Groups and overlap with properties
- The Wyndham-East Kimberley Shire boundaries (which forms the southern boundary of area proposed)



Legend
Purple = Ecofire Boundary
Orange dot = Nyaliga current project (Karunji and Durack river – both ILC owned)
Brownish lines = proposed boundary
UCL – Unallocated Crown Land (this property boundary is useful when trying to get a geographic reference point when looking at all the following fire history maps).

Recommendations

On looking at the fire regime maps in Appendix 1, we suggest that the focus area should be decreased in size from what was discussed at the meeting in December 2007 in the WWF office. Rather than a regional east Kimberley approach, it may be more appropriate to focus on 5-6 properties which adjoin the Ecofire project boundaries (as these are also experience the worst fire regime in the east Kimberley region, albeit better than many other regions in the north and west Kimberley) . The original project area discussed was very large, and according to the fire maps, the eastern side of the original project area is not suffering from wildfire as much as the western side. The refined list of likely properties to target are:

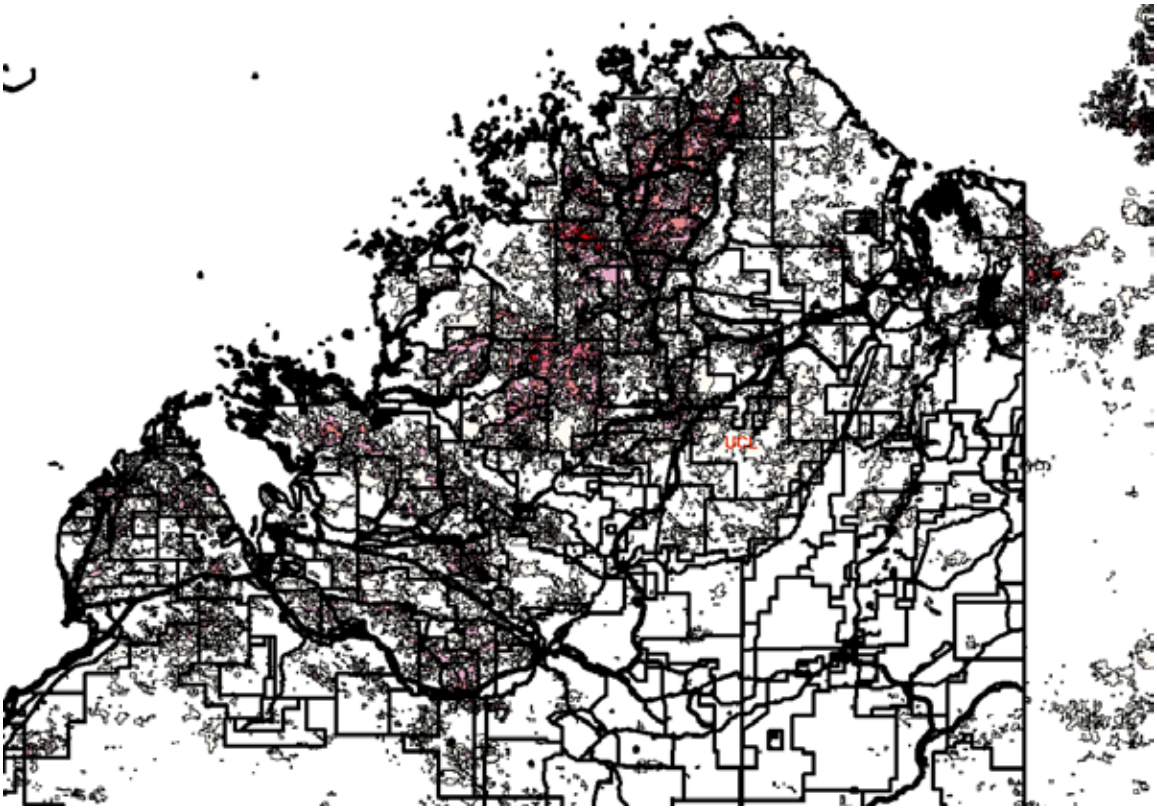
- Tablelands
- Bow River
- Doon Doon
- Karunjie/Durack river
- And the northern half of Bedford Downs
- A track of Unallocated Crown Land to the south of Karunjie station

All of these apart from the Unallocated Crown Land (which it should be noted is part of a successful Native title claim) are Indigenous owned/managed,. We therefore suggest that the coordinator position would be based within the Kimberley Land Council as KLC have the legislative power to coordinate, consult and undertake the fire planning and management on Indigenous lands. Having a position based within KLC would also aid in linking this project in with other Kimberley regional projects being coordinated by KLC.

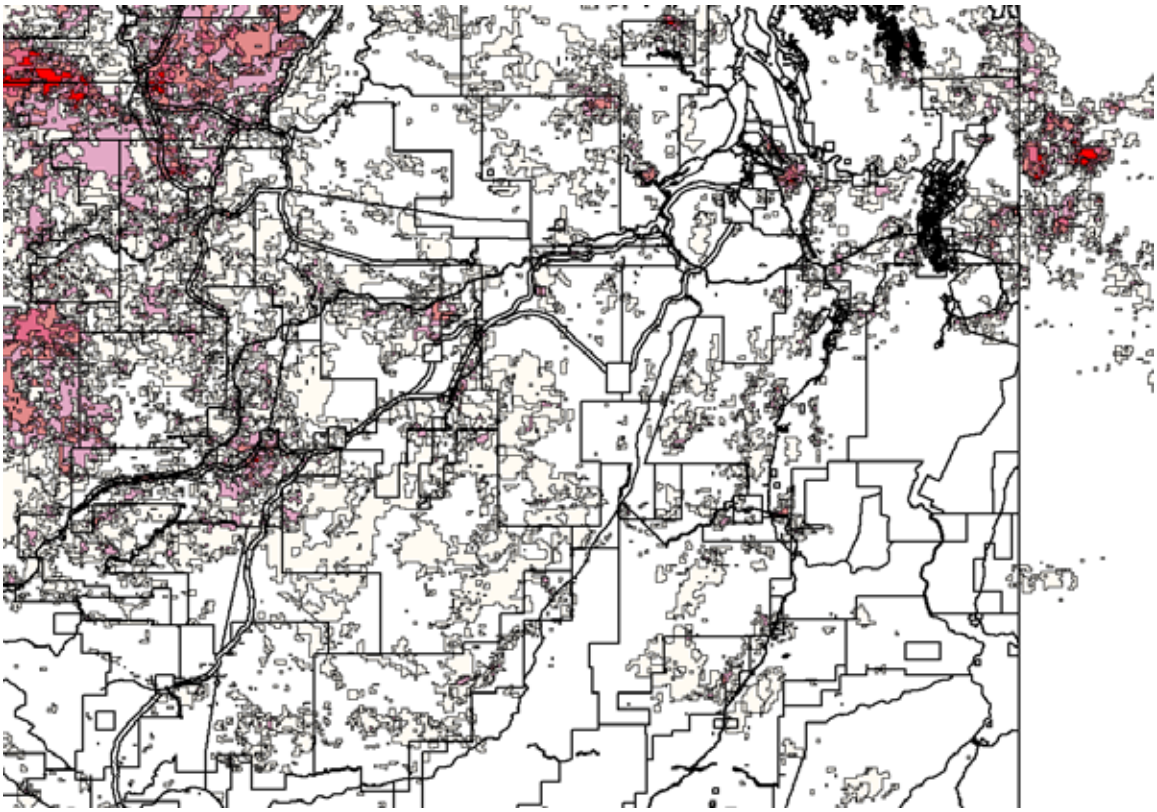
List of potential partners/stakeholders:

Rio Tinto – Lake Argyle Mining Leasee
North Australia Indigenous Land and Sea Management Alliance Fire officer
Miriuwung Gajerrong Association
Nyaliga corporation
Kimberley Land Council
El Questro tourism resort
Tropical Savannas CRC
EcoFire - Australian Wildlife Conservancy
Wyndham-East Kimberley shire council
Department of Environment and Conservation
FESA – Fire and emergency Services
Indigenous Land Corporation
Ord River Land and water body
Kimberley NRM group
Department of Agriculture
Kimberley Aboriginal Pastoralists Association
Kimberley Pastoralists Association

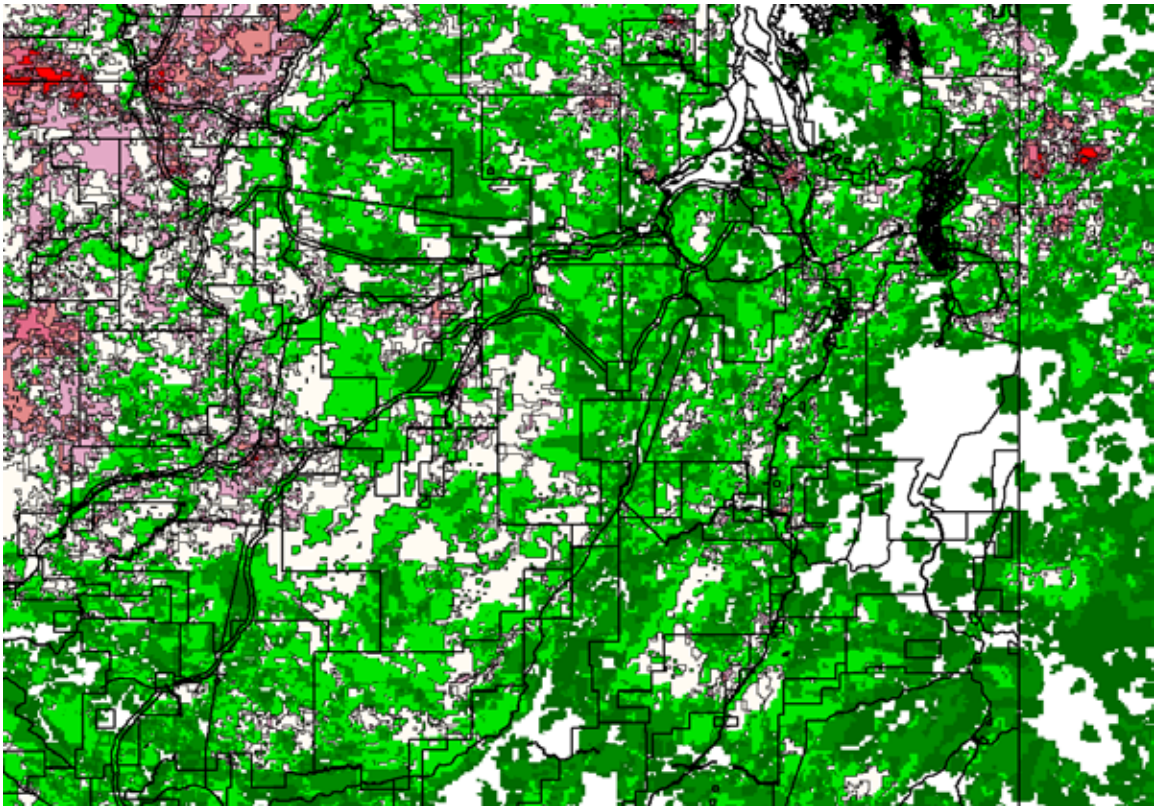
Fire Map 1. 1997-2005 fire frequency, with only those polygons that have a frequency of 4 times or more being shown. I have marked UCL on the map (centre right) to help with bearings of project area. Note majority of fires occurring in North or central west Kimberley.



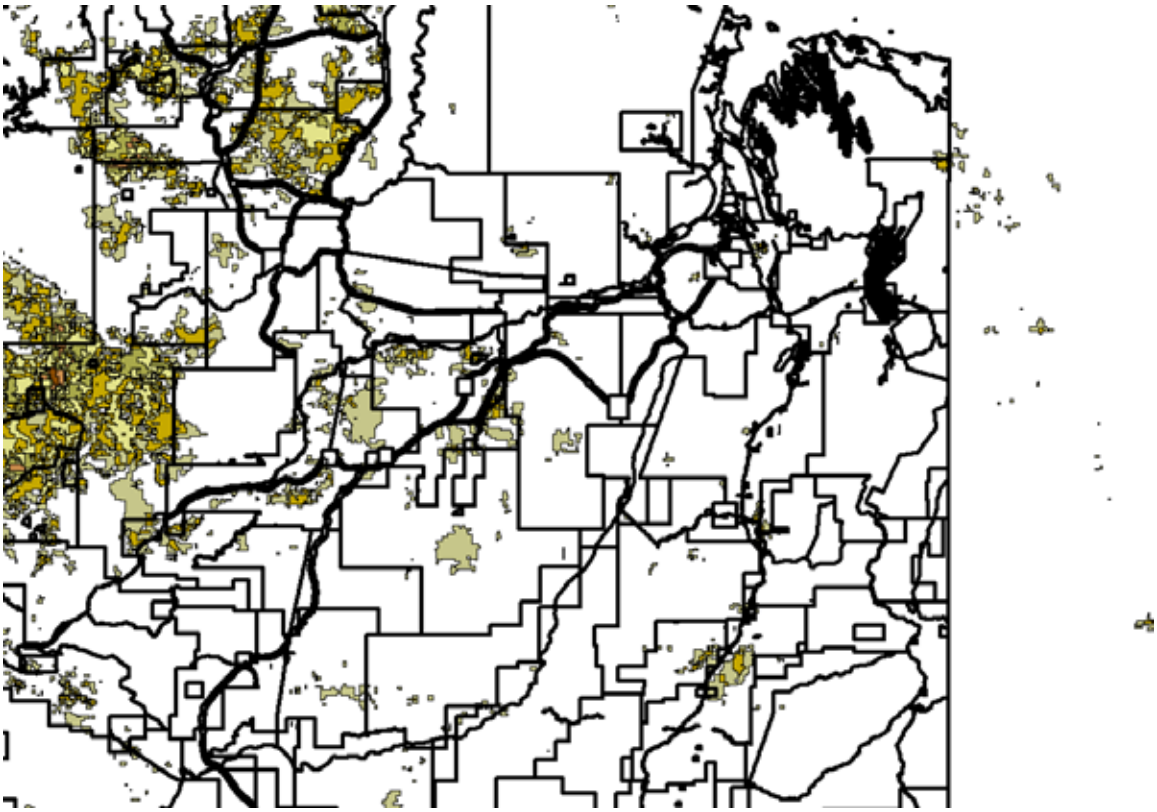
Fire Map 2: as above but zoomed into proposed project area. The frequency of fires is not such a problem in this project region as it is in other areas of north Australia. Karunji station (almost centre) has a bit of 'redness', but the other red areas to the north and west are within the boundaries of the Ecofire or North Kimberley fire projects.



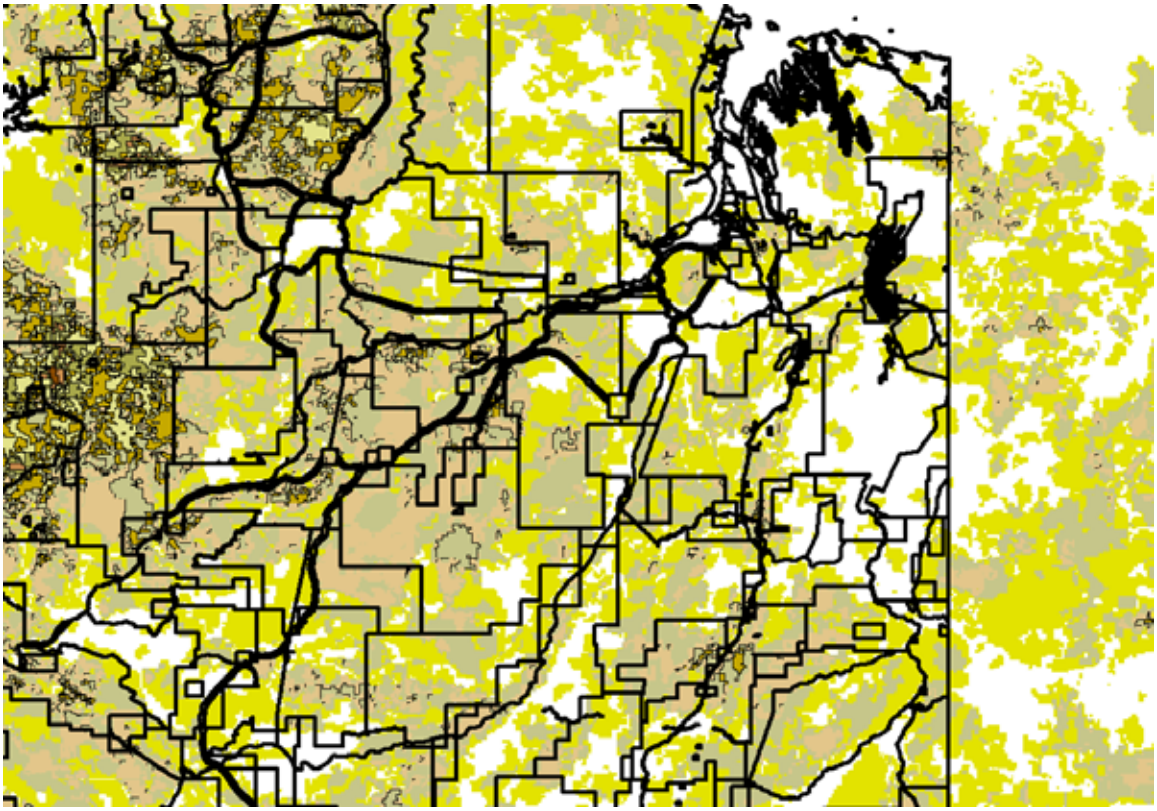
Fire Map 3, same as Map 2 (1997-2005 fire frequency) but with additional polygons of areas burnt once, twice or three times during the 9 year period (darkest shade green = only burnt 1, lightest shade green = burnt 3 times). Note – a relatively large area of proposed project area either burnt once, twice, or not at all during the 9 years.



Fire Map 4 – only shows those polygons where the area has been burnt by ‘late dry season’ fire 4 times or more over 97-05. The main areas are outside the proposed project area. Within the project area, the areas that are being burnt badly and frequently are within the UCL, and to the North on Karunjie and Durack River (ILC – Nyaliga project area)

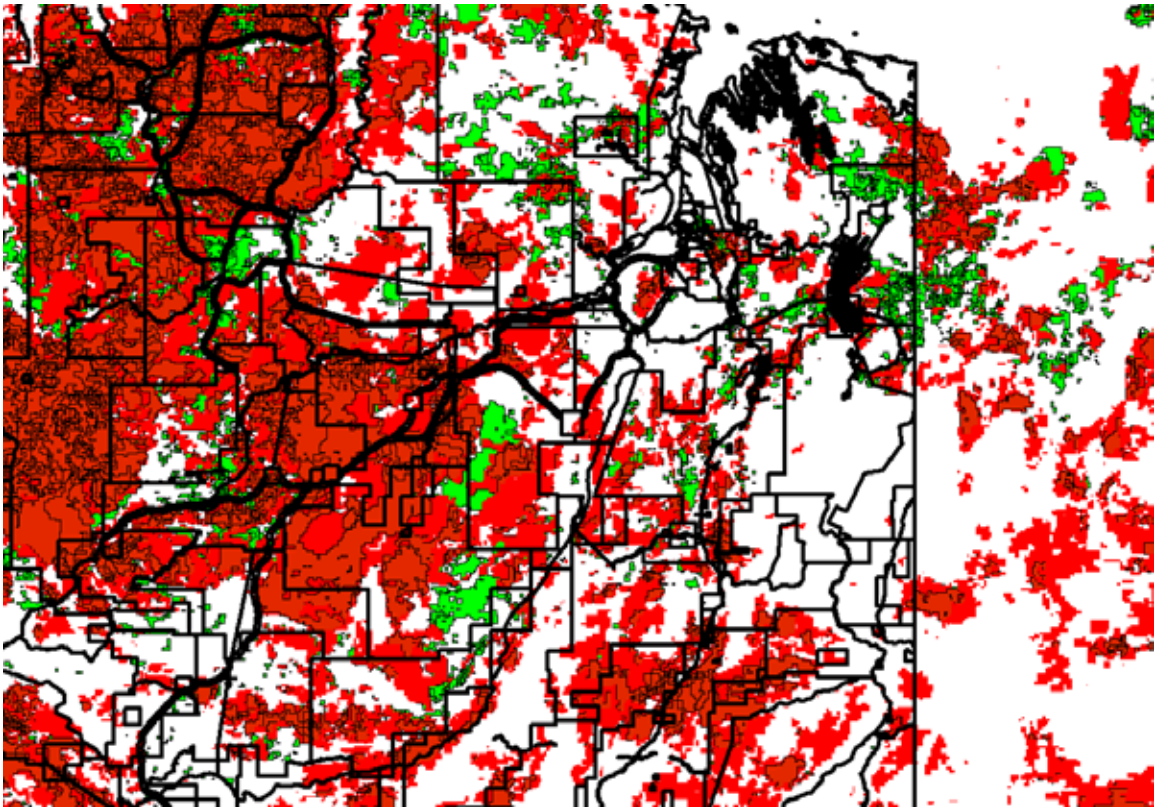


Fire Map 5 – all is not totally fine in the project area, this map shows the country that has been burnt by late dry season fire at least once from 1997-05. Basically, the region is getting burnt out by late dry season wildfire 1 – 3 times every 9 years.

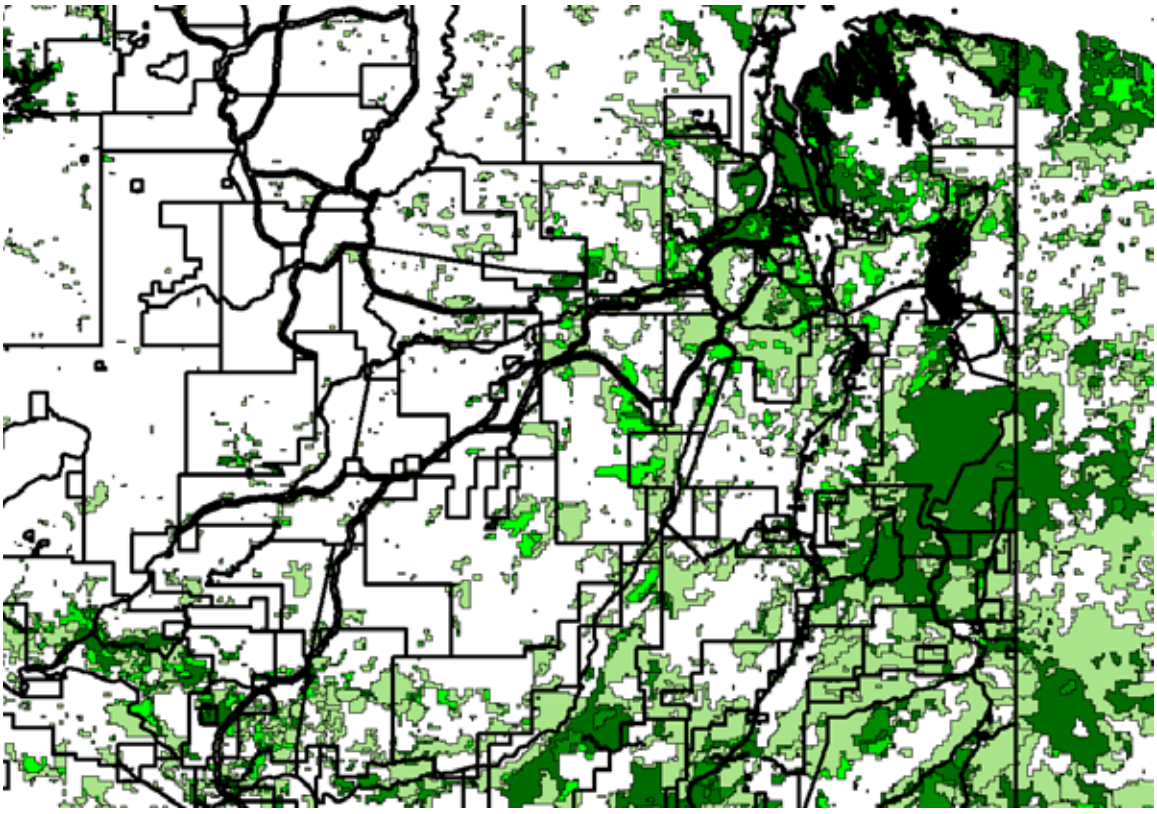


Fire Map 6 – Green overlay are those areas burnt frequently (4X or more 97-2005) and on top of this (so some of the green has been overlayed/disappeared) is the red overly which is those areas which have had 2 or more 'late dry' season fires. It's interesting to see those remaining green areas that are burning almost every 2nd year, but must be getting burnt in the early dry season, so I'm assuming people are actively lighting these fires year in, year out early in the fire season.

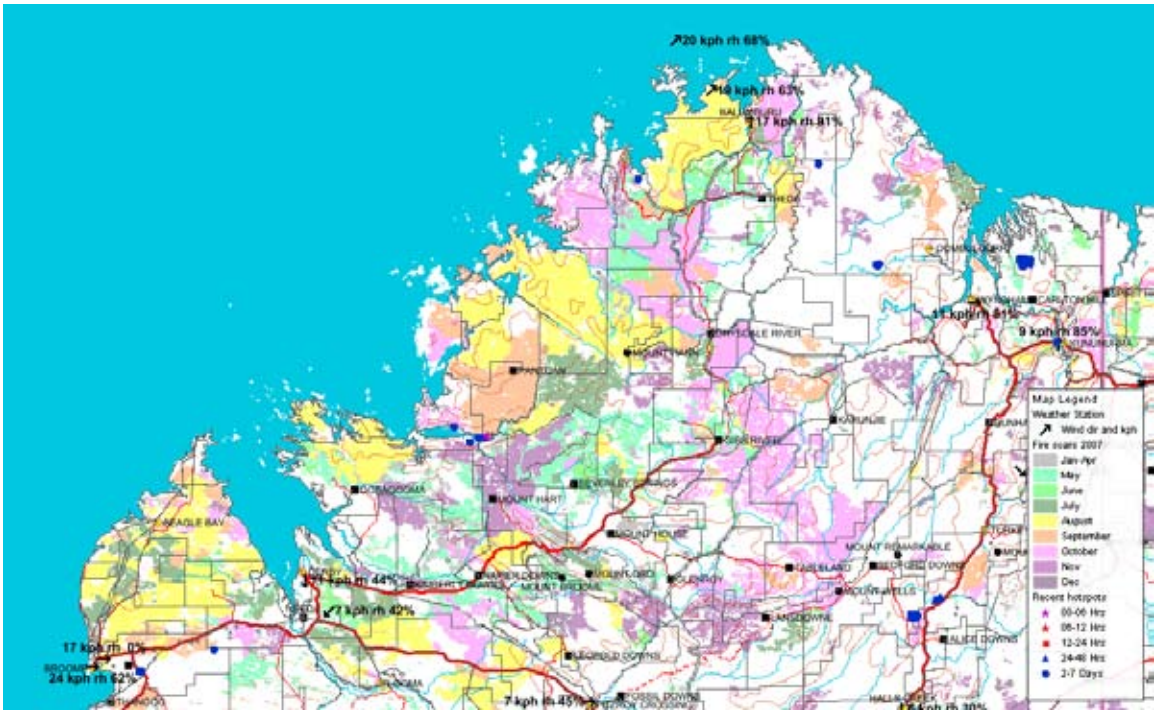
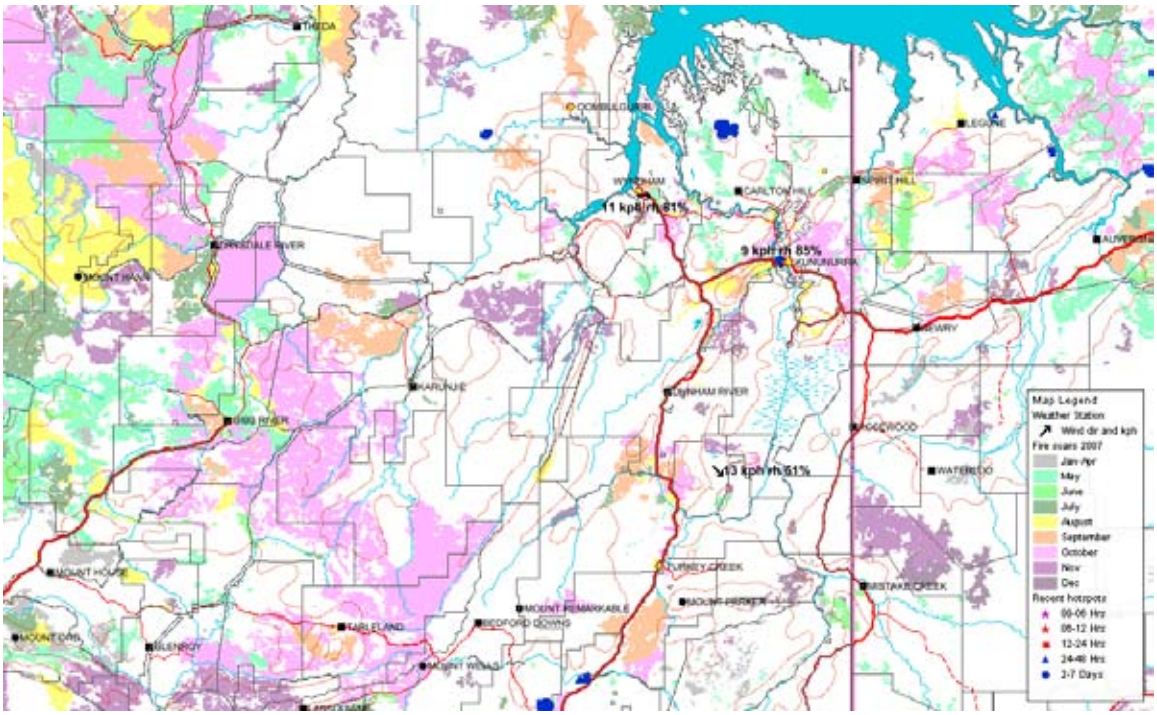
Interesting to see that it's the UCL and the two properties to the north (Karunji and Durack river) which are the areas most impacted by the two or more late dry season fires. Possibly due to the properties to the east being pastoral operations, hence reduction in fuel.



Fire Map 7: Only areas that = 4 or more years since last burnt are shown. The darker the shade of green, the longer the time since last burnt. Don't be fooled by Lake Argyle near the NT border.



Fire Map 8 = Fire Map from 2007. The fires were relatively similar as the 97-05 fire history maps.



Fire Map 9: 2007 fire scars but zoomed into project area.