APPENDIX 1: RANGELANDS OVERVIEW

From: http://lrm.nt.gov.au/

Department of Land Resource Management

Gulf Falls and Uplands

Bioregional Description

The Gulf Falls and Uplands bioregions comprises undulating terrain with scattered low, steep hills on Proterozoic and Palaeozoic sedimentary rocks, often overlain by lateritised Tertiary material. Soils are mostly skeletal or shallow sands. The most extensive vegetation is woodland dominated by Darwin Stringybark *Eucalyptus tetrodonta* and Variable-barked Bloodwood *C. dichromophloia* with spinifex understorey, and woodland dominated by Northern Box *Eucalyptus tectifica* with tussock grass understorey. This bioregion includes two subregions.

Special values

The ranges of this bioregion have some significant refugial values, and include some endemic or near-endemic species and many geographically disjunct occurrences. Threatened species include the highly localised and endangered carpentarian rock-rat and the endangered gouldian finch.

- **Summary of overall condition and trend**

  The bioregion is generally in good condition, but this is being eroded by continuing increases in the number of feral animals (especially pigs, buffalo, donkeys and cattle) and weeds, and broad-scale changes in fire regime. Both subregions are rated as continental stress class 5.
- **Summary of priority management/conservation priorities**

  This bioregion includes Lawn Hill, the recently established Limmen Gate and parts of Elsey NP. While these provide reasonable representation of the range of the

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bioregion's environments, they do not represent well the limited areas of more fertile lowlands.

At least as important as enhancing the reserve system is the need for increased management actions to combat the pervasive threatening processes of feral animals, weeds and altered fire regimes.

- **Wetlands**
  - *Nationally important wetlands*

    Two nationally significant wetlands are recognised. They fall on the extreme NW and SE borders of this bioregion. Both Mataranka Thermal Pools (NT003: wetland type B17) and Lawn Hill Gorge (Q101) are within conservation reserves and in good condition, although both have high tourist visitation.

  - *Other wetlands of subregional significance*

    The bioregion includes some regionally significant perennial rivers and gorge systems.

- **Riparian zones**

  Important watercourses flowing through parts of this bioregion include the Roper, McArthur, Wilton, Hodgson, Cox, Calvert, Robinson, Wearyan, Nicholson, Foelsche, Phelp and Waterhouse Rivers. Riparian areas are generally in reasonably good condition, but are suffering some degradation from uncontrolled livestock and feral animals. There are also more localised or less serious extensive problems from weed infestations, pollution associated with mining, and altered fire regimes.

- **Ecosystems at risk**

  There has no formal classification of the threatened status of ecosystems in this bioregion, except for the small portion occurring in Queensland. In this latter area, three REs are considered threatened: 1.10.6 (swamp bloodwood woodland in sandstone springs), 1.3.8. (river red gum riparian woodlands) and 1.3.5 (mixed eucalypt woodlands on sandy alluvial terraces). Consistent with this assessment, the environments most at risk across the rest of the bioregion would include the limited areas of monsoon rainforest, riparian areas, and wetlands (particularly swamps, springs and soaks). The threatening processes are mostly the pervasive impacts of feral animals, livestock, weeds and changed fire regimes.

- **Species at risk**

  This bioregion supports 10 species listed as threatened federally or in the State/Territory. This includes most of the range of the endangered carpentarian rock-rat. Other threatened species include gouldian finch, purple-necked rock-wallaby, red goshawk and *Solanum carduiforme*.

  Number of taxa in the Gulf Falls and Uplands bioregion listed as threatened at national and/or NT/Queensland level (*nb this table includes only species definitely*

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recorded from the bioregion (rather than putative occurrences based on modelling) and presumed to be still extant in the bioregion).

taxa	National		Northern Territory	
	endangered	vulnerable	endangered	vulnerable
plants	0	1	0	0
birds	1	3	2	4
mammals	1	2	1	1

There is also some substantial evidence that there is broad scale decline affecting at least some groups of mammals and birds in this bioregion, in addition to those species currently listed as threatened.

- **Other flora values for eucalypts and acacias**
    1. *Endemism*

       The subregions of this bioregion contain no known endemic acacia or eucalypt species.

    2. *Richness*

       Richness Subregion 1 in this bioregion has a high diversity of both *Acacia* (83 species) and *Eucalyptus* (51 species). Richness is relatively low in the other, smaller subregion (35 and 13 species, respectively).
- **Birds**

  There were too few samples to assess change in bird status over the period between the two bird Atlases. However, consideration of the historical data suggests broad-scale declines of at least partridge pigeon, and probably also carpentarian grass-wren and red goshawk.
- **Mammals**

  The mammal fauna of this bioregion has had a low to moderate rate of loss. Of 52 species recorded, 2 are regionally extinct, 2 have undergone serious decline, 3 have declined and 45 species are stable.

Management Responses

- **Reserve consolidation**

  There is some scope for increasing reservation, especially to include the very few localities of the most endangered species, the carpentarian rock-rat. These all fall within one pastoral holding (Wollogorang-Wentworth), which also includes some of the best developed and riches monsoon rainforest patches in the bioregion.
- **Off park conservation for species and ecosystem recovery**

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There is some opportunity for increased protection of localised biodiversity features (e.g. small rainforest patches, springs) through exclosure fencing on pastoral properties. Caranbirini waterhole is an example of this initiative.

- **Integrated NRM**

  As with most other bioregions in northern Australia, the major NRM priorities concern broad-scale control of threatening processes, especially feral animals, weeds and altered fire regimes. To deliver this control, there needs to be increased resourcing, better coordination across landholders and tenures, and some capacity building.

Further Information and Gaps

- **Major data gaps and research priorities for bioregion**

  Management would also benefit from more detailed environmental mapping, in particular vegetation mapping at the scale of 1:250,000 or better.

  Currently in this bioregion, there is no substantial monitoring program which includes as a major goal the assessment of trends in biodiversity conservation. Such a program should be a management priority.

- **Other information**

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