

## EXPRESSION OF INTEREST FOR *IN PERPETUITY* AGREEMENTS WITH TWO PROPERTIES AT JIGGI, FAR NORTH COAST OF NSW

### Introduction

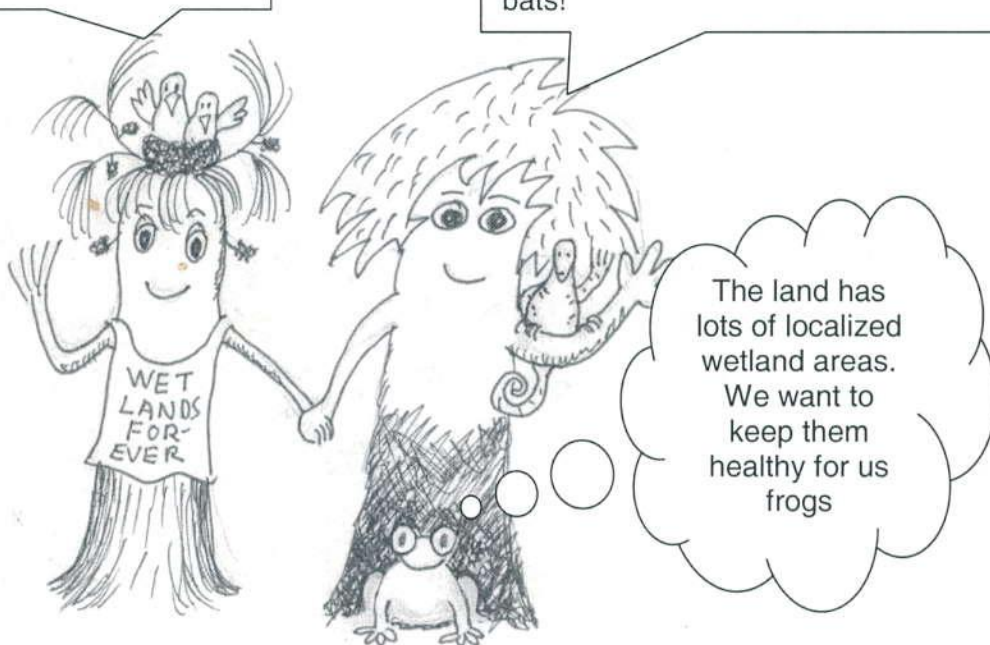
This document provides a bid of interest for two adjacent properties at Jiggi in the Far North Coast of NSW to undertake *in perpetuity* agreements to preserve native vegetation with a high biodiversity function. The first property has an area of 240 acres, with advanced regrowth and high vegetation diversity. The second property has an area of 100 acres, with around 75% of its area containing moderate-to-advanced regrowth. Both properties encompass valley floors, ridgelines, creeks, wetlands and moist gullies. Soils are volcanic basalt – a legacy of Mt Warning eruptions around 20 million years ago – overlaying sandstone.

The 100 acre property is “owned” by Keith Bolton, and the 240 acre property is jointly “owned” by Keith Bolton and Scott Boyd. Both caretakers have a deep commitment to the land, and wish the biodiversity values of the land to be extended beyond their custodianship.

Refer to the aerial photo overleaf for approximate boundaries of both properties.

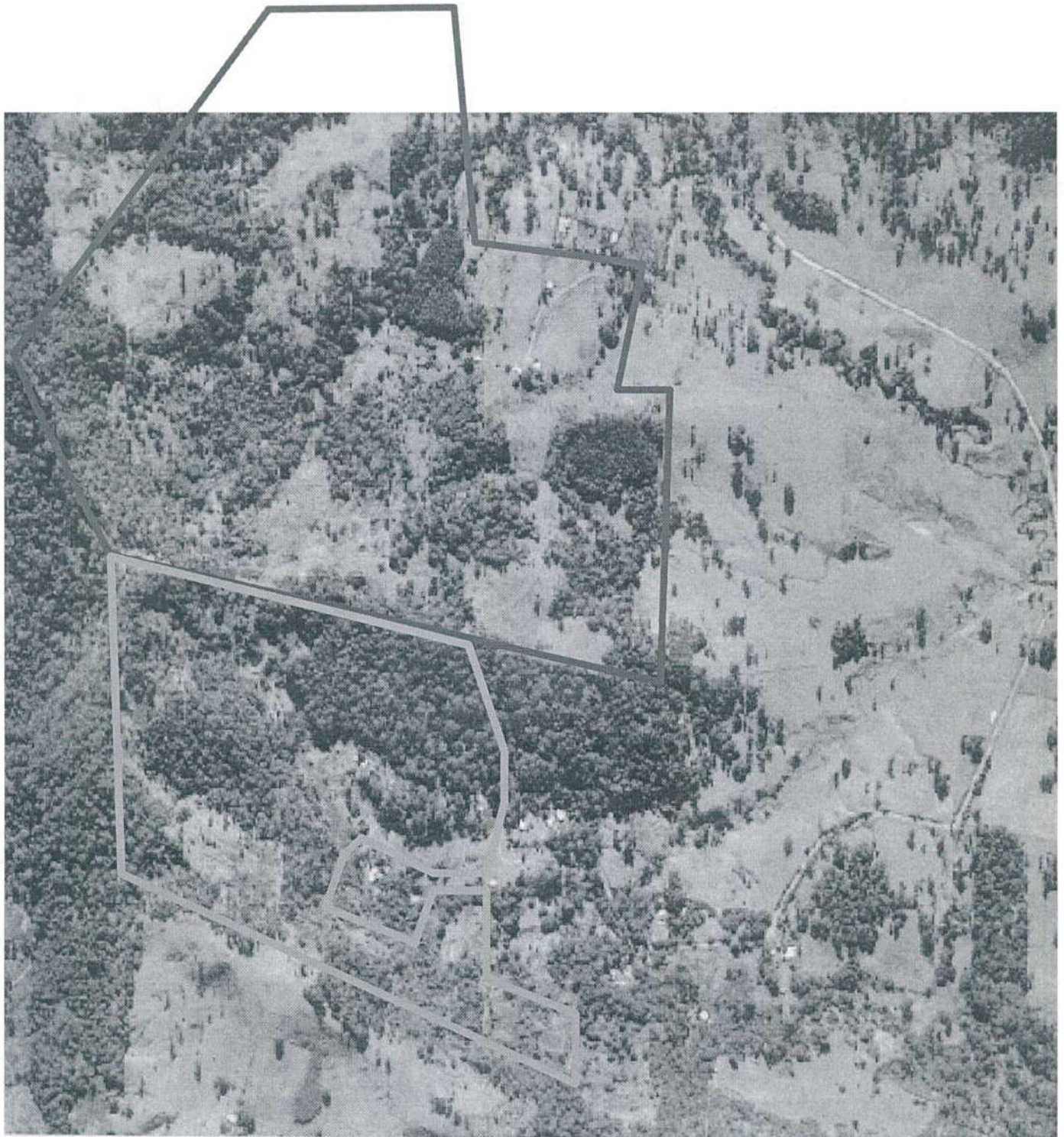
Hi! I'm Casual Rina the happy forest she-oak, and a whole range of bird species eat my seeds, especially the cockatoos. We're hoping to plant out heaps more Casuarina trees in the steeper, erosion-prone areas of the two properties, and as possible slash pine replacement species.

Hi, I'm Mellow Leuca the friendly paperbark tree. We don't grow on the properties (except a couple left over from Keith's PhD research), but my close cousins the Callistemon trees grow in the lower gully and wetland areas. We want to plant more of these high-nectar trees. Good for the bats!





**Aerial photos of the two properties at Jiggi showing approximate boundaries**

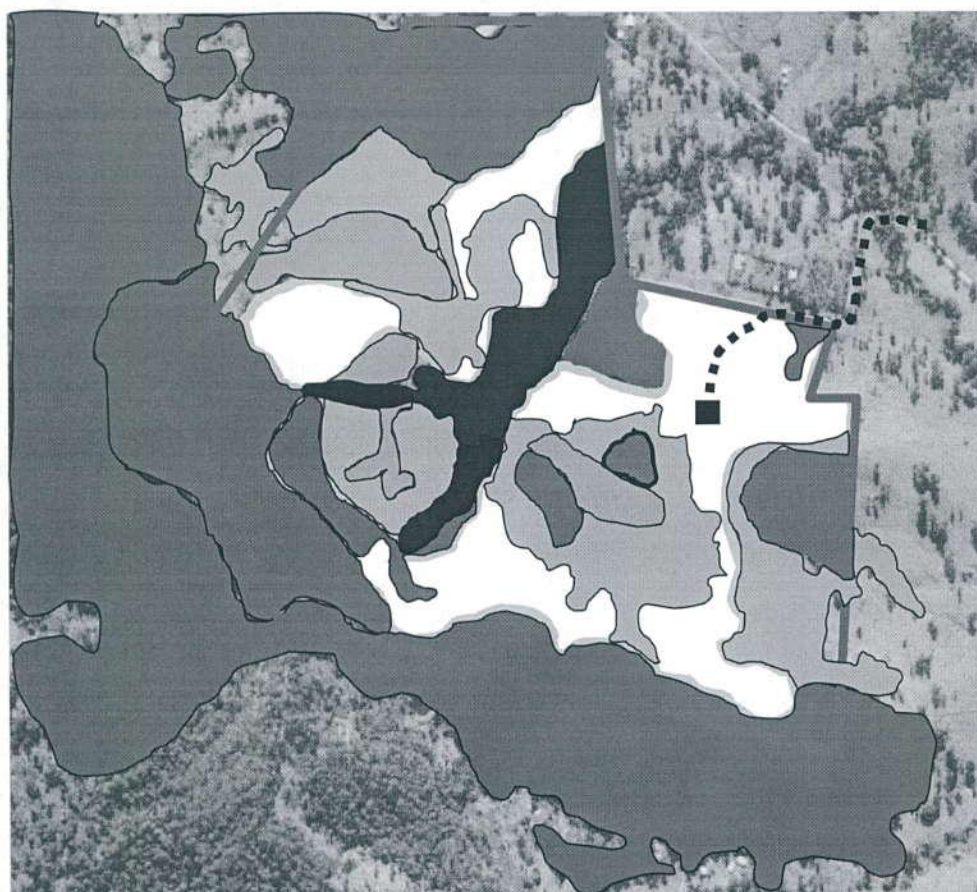




In perpetuity agreements: Bolton and Boyd.

### Vegetation communities in the 240 acre property

- Established Eucalypt forest
- Upper gully community
- Pine plantation
- Early stage regeneration forest
- Lower gully community
- Grasstree communities
- Casuarina forest





## Description of native vegetation

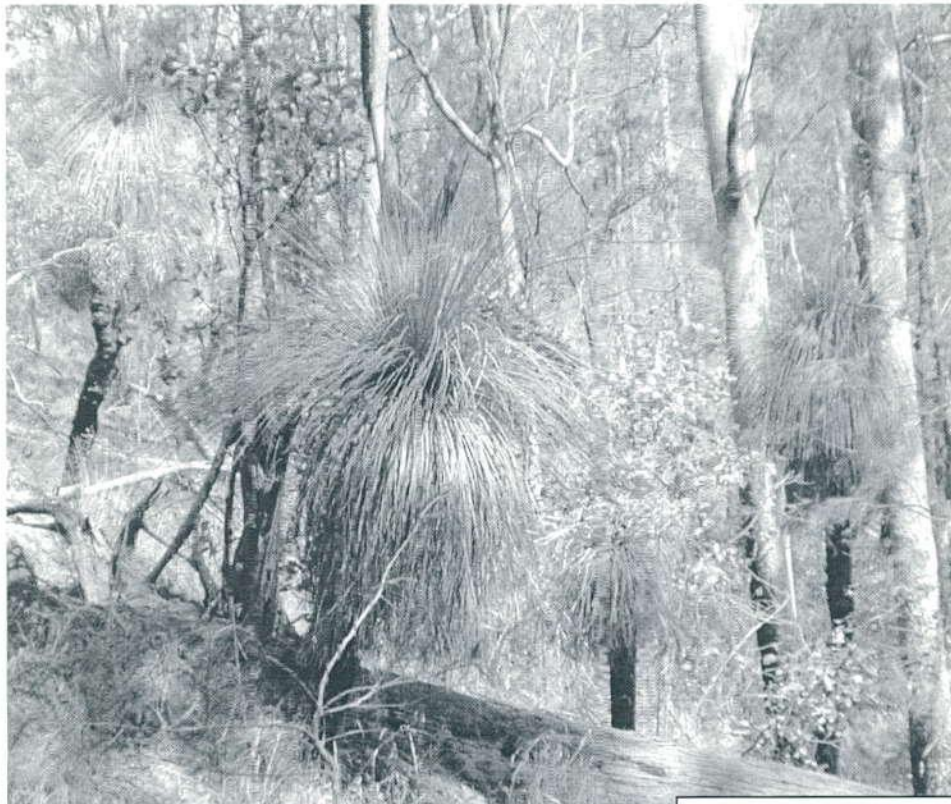
A wide range of vegetation types exist on both properties, a function of a diversity of soil types (basalt overlaying sandstone), variation of gradients, localized hydrology, and significantly reduced agricultural activities during the past 25 years.

Major vegetation types that have been identified on the properties are:

- **Grasstree (*Xanthorrhoea* spp.) in open Eucalypt forest**, with a minor *Casuarina* component and well established *Lomandra* understories located exclusively in sandstone outcrops (Refer to Plates). Two grasstree communities have been identified on the 240 acre property, and a seriously degraded community exists on the 100 acre property. Tree ferns growing on sandstone boulders, including staghorns and elkhorns, are common, with a variety of lichens and orchids. Localised soaks in these areas support wetter vegetation (egg native ginger) and ferns.
- **Gully communities** in the upper and lower gully areas support a wide variety of vegetation types including *Syzygium* spp. *Araucaria cunninghamii*, *Ficus* spp. *Lophostemon* spp., *Callistemon* spp. *Grevillea robusta*, *Acacia* spp. interspersed with mixed Eucalypt species. Tree ferns, including staghorns, elkhorns and crowsnests are common. Gully communities are divided into lower gully communities (less Eucalypt species) and upper gully communities (more Eucalypt species).
- **Established Eucalypt and Lophostemon forest**. Advanced stage regrowth mixed Eucalypt forests exist throughout both properties (est. 80 years +). Although logging activities occurred in these forests, as evidenced by erosion trenches caused by bullock teams, original trees exist in some areas. Main tree species in these forests include pink box, ironbark, tallow wood, flooded gum (mostly on 100 acre property), pink and red bloodwood and turpentine. These forests support a wide range of understorey species.
- **Early-stage regeneration forests**. Consist of areas where more recent regrowth (est. between 10 – 15 years) has occurred. These communities are often colonized by *Macaranga*, and are predominated by *Eucalyptus* species; however *Casuarina* and *Acacia* spp. are common. Weeds, particularly groundsel, lantana, and Crofton weed, continue to be a problem in early-stage regeneration forests on both properties.
- **Casuarina forests**. *Casuarina toriolo* communities exist in sandy areas. *Casuarina* are successfully colonizing some areas, including erosion spots, and fringes of pine plantations.
- ***Pinus radiata* plantations**. Three pine plantations are on the 240 acre property – comprising a total of around 15 acres – contain trees between 20 and 30 year old. A further self-seeded plantation close to the main access road

Refer to photos overleaf. Note that these photos are all taken from areas with high *in perpetuity* potential.





Grasstree communities

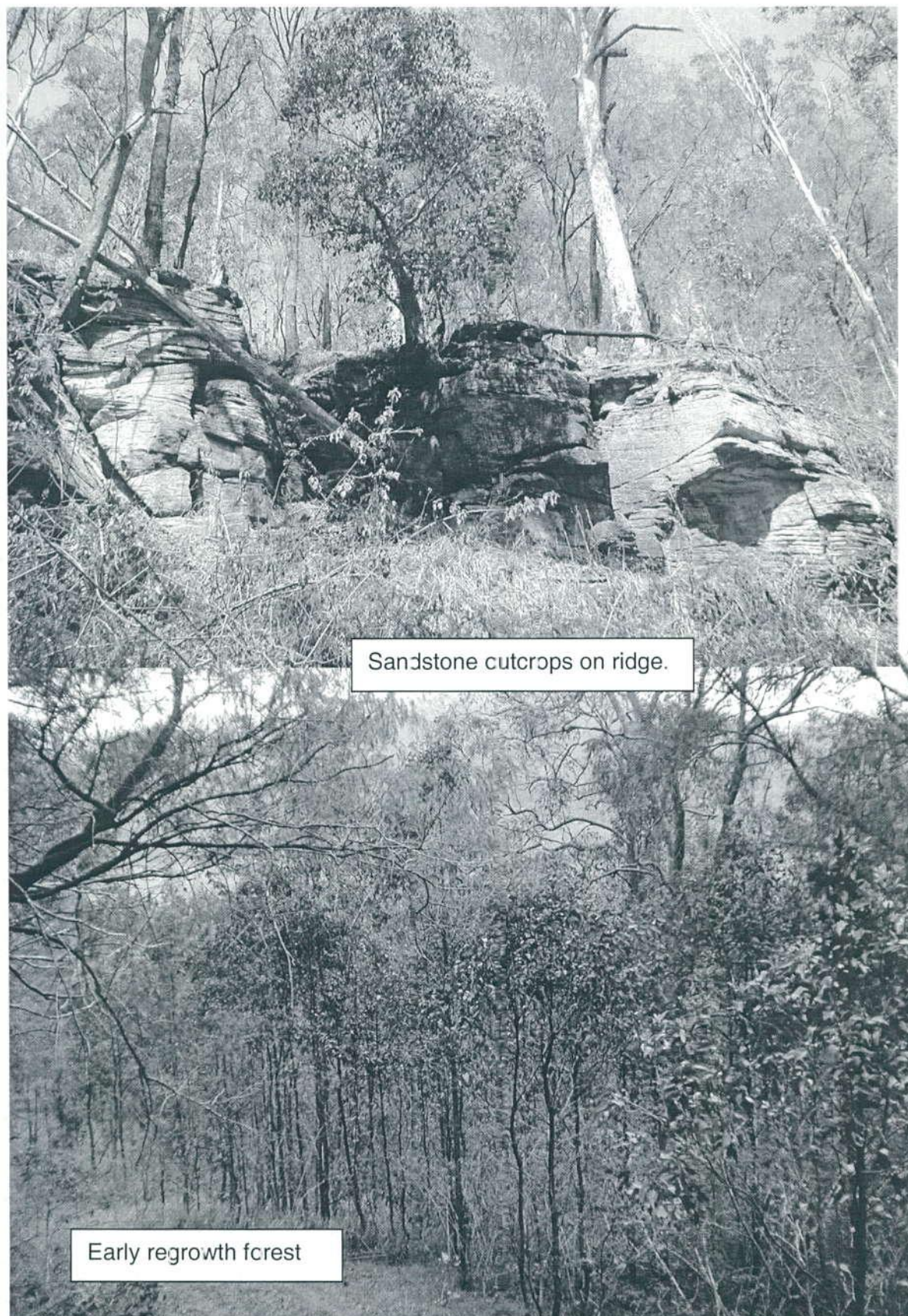






Casuarina communities

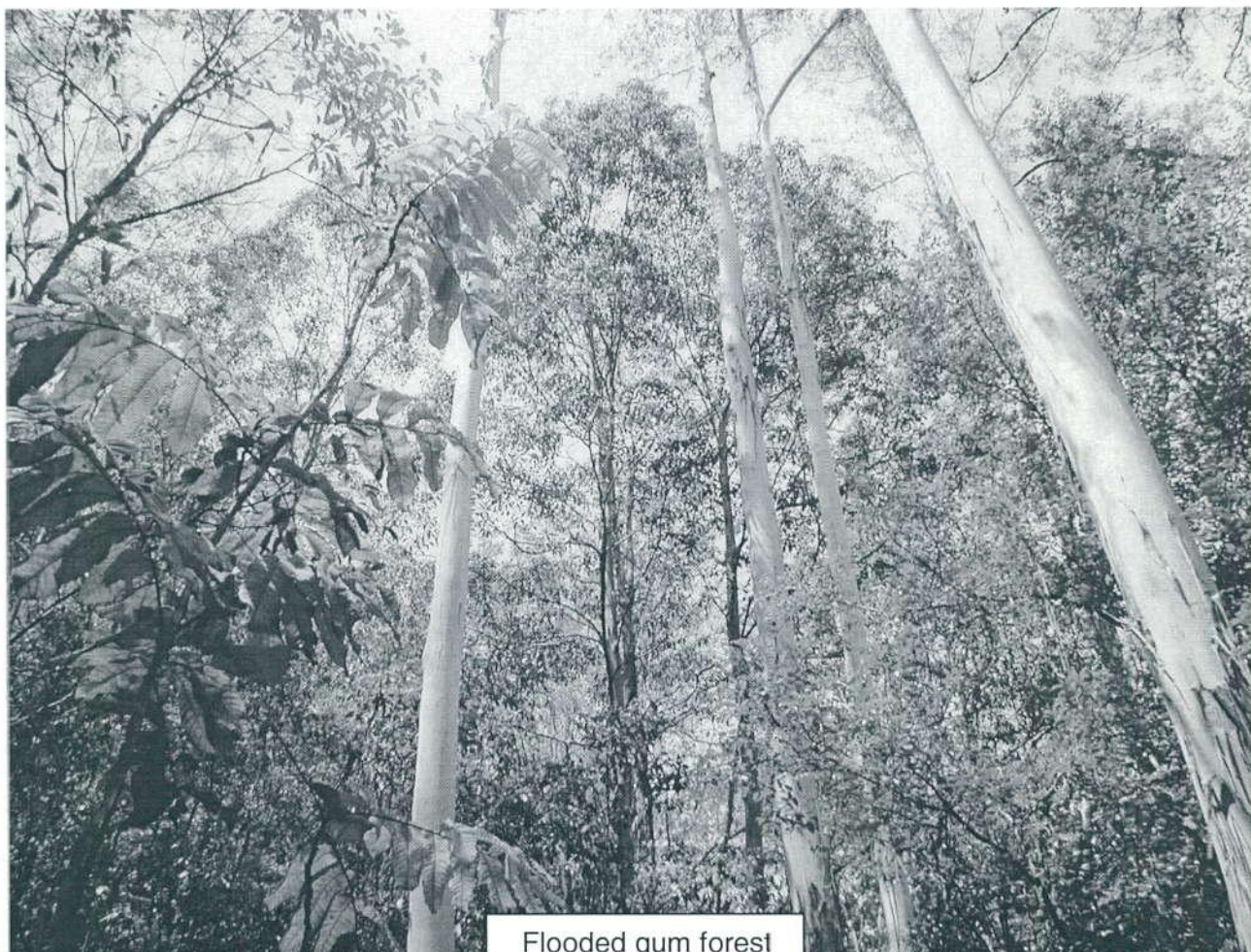




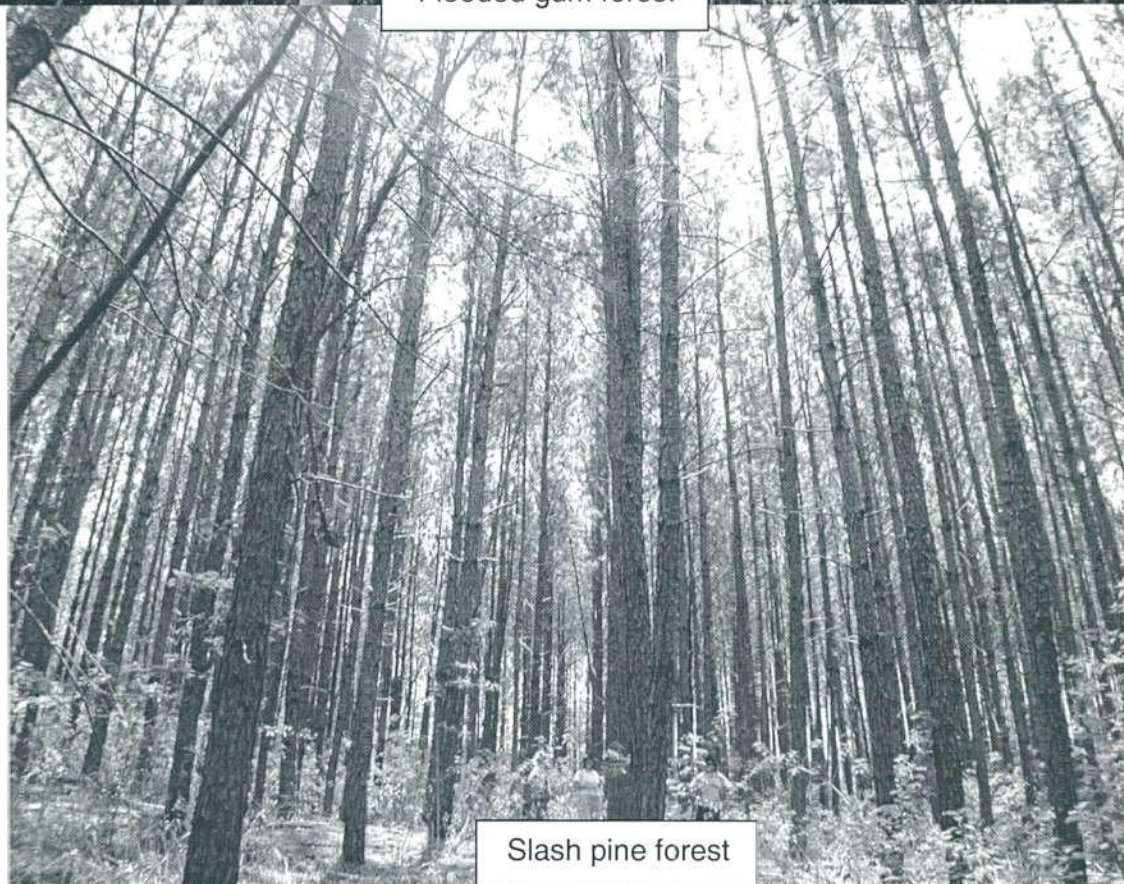
Sandstone outcrops on ridge.

Early regrowth forest





Flooded gum forest



Slash pine forest



## Condition of vegetation

Vegetation communities on the property are generally in good-to-excellent condition. However, a number of factors are impacting upon the health of vegetation communities. Factors affecting condition of vegetation communities on the property are:

**Erosion.** The farm has a history of logging followed by intensive agricultural practices including dairy farming, bananas, small crops and orchards. These stresses have created areas with moderate-to-severe erosion problems. Old erosion trenches, a legacy of bullock-hauled logs, continue to pose an erosion problem. Networks of old roads are intertwined throughout the property. In combination with dispersed clay soils on the ridges, these roads have created serious erosion spots resulting in loss of groundcover and heavy silt export. Gullies have been scoured into the steeper slopes, and the upper reaches are prone to erosion. Revegetation due to reduced stresses is reducing the impact of gully erosion.

**Cattle.** Cattle are an important part of the paddock management strategy, and provide an income for the farm. Whilst stocking rates are low to moderate, cattle damage young regrowth vegetation and cattle tracks contribute to erosion. Pugging exacerbates erosion, particularly in the steeper portions of the property. The grasstree communities are most at risk of cattle damage.

**Weeds.** Due to very low paddock maintenance in the last decade, weeds are well established throughout the property. Major weeds include: groundsel, Crofton weed, lantana, slash pine trees and camphor laurel. These weeds are competing strongly with native regrowth.

**Fire risk.** Fire continues to be a major threat to some vegetation communities, and the author remembers several fires on or around this property during the last two decades. Fire access and fire breaks are in a poor state of repair, and there is no cohesive fire management plan. It should be noted that some plant species rely on fire for seed germination (e.g. grasstrees), and this must be considered in the fire management plan.





Erosion caused by a road cutting.  
Note the Casuarina and fern  
providing soil binding.

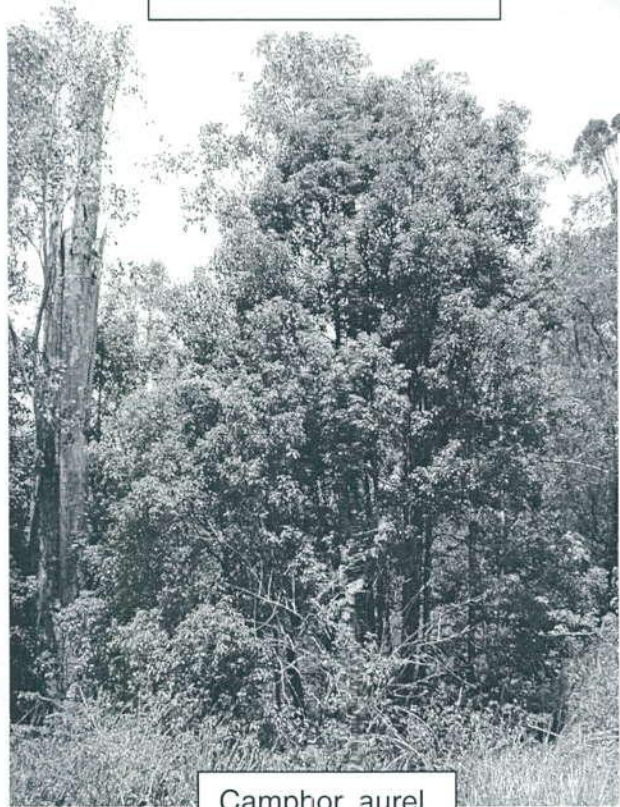




Slash pine incursion



groundsel



Camphor avel



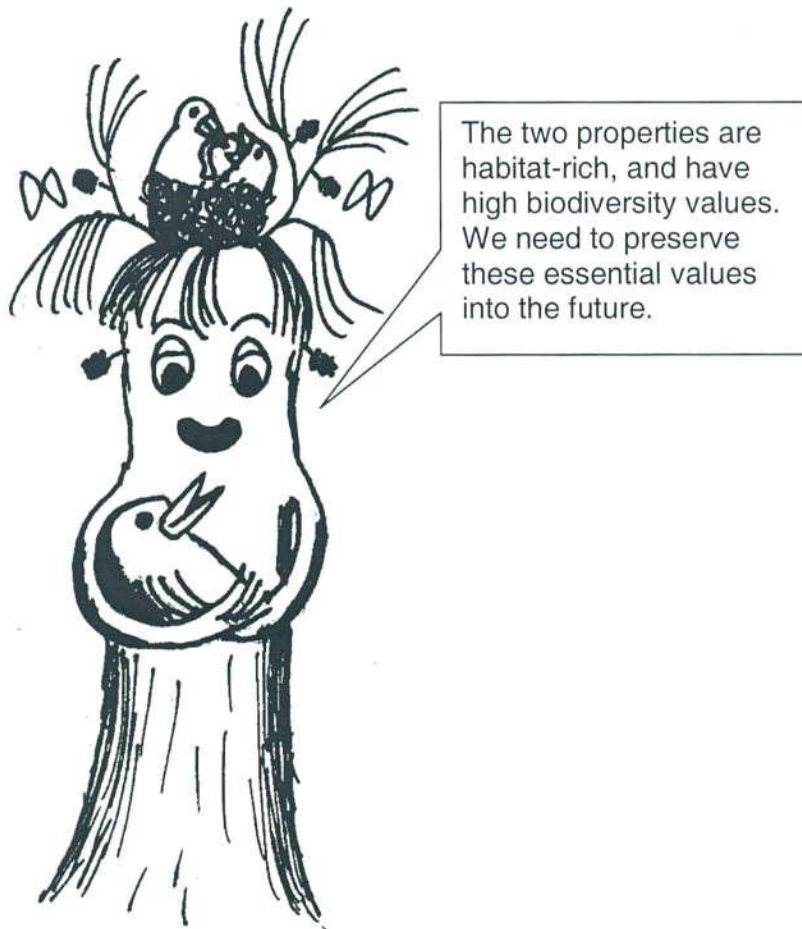
Weeds are a major management issue for both properties. A well-thought out weed management programme is necessary for long-term sustainability



**Habitat values.**

A wide variety of habitat niches exist on the property, predominantly a reflection of the broad diversity of vegetation types, and the presence of advanced-regrowth areas. However, the geology, hydrology and topography both contribute to a habitat-rich environment. Significant habitat features include:

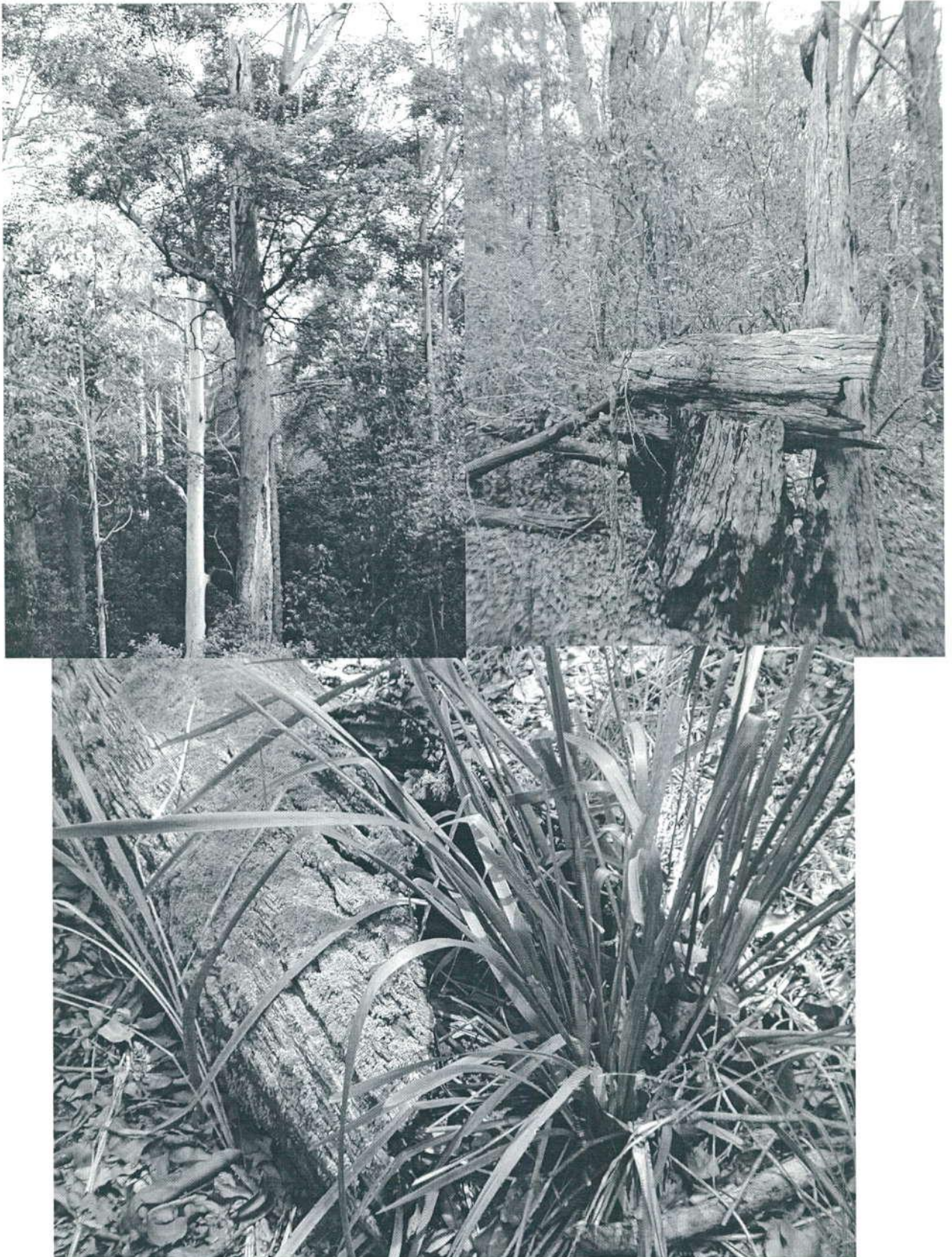
- Original trees and advanced regrowth trees have hollows
- Dead standing trees (old ringbarked, or lightning struck) have hollows and roosting sites
- A wide variety of groundcover microenvironments
- Presence of numerous soaks, forming localized wetland habitats
- Sandstone outcrops with caves
- Creek and network of gullies













## **Other important aspects**

- Clearing has been extensive in the past, however there are pockets of original vegetation, and many parts of both properties contain advanced regrowth.
- A high percentage of the original vegetation community exists in the region, and there is a healthy seedbank
- Corridor maintenance and construction is an important aim of the two caretakers
- Soil erosion is a serious problem in some areas of the property.