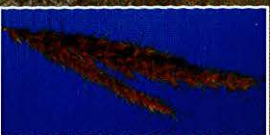
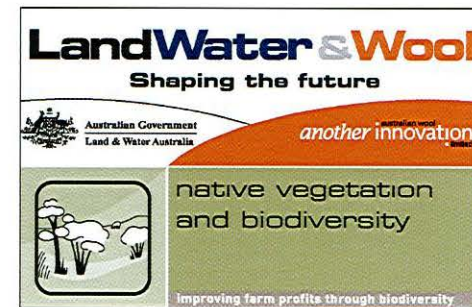


**TRAPROCK REGION  
PASTURE AND BIODIVERSITY  
MONITORING FIELD GUIDE**



# TRAPROCK REGION PASTURE AND BIODIVERSITY MONITORING FIELD GUIDE



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Text: Greg Ford

Design & Layout: Greg Ford & Sandy Sharman

Cover photos:

Landscape – University of Southern Queensland

Emerald spotted tree frog – Mark Sanders

White-box buds – Greg Ford

Red-capped robin – Helen Fallow

Silky brown-top grass – Inglewood Landcare

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Pasture monitoring content is largely derived from monitoring kits developed elsewhere: the *Pasture Health Kit* (Sustainable Grazing Systems Key Program, Meat and Livestock Australia and NSW Department of Primary Industries); *GRASS Check* (Department of Natural Resources, Qld); and *Pasture Photo Standards* (Department of Primary Industries, Qld). Our thanks to those organisations for allowing us to reproduce this material.

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Bird descriptions are modified from *Birds on Cotton Farms: a guide to common species and habitat management* (Thompson & Ford, 2006; Cotton Catchment Communities CRC) and *Field Guide to Australian Birds* (Morcombe, 2003; Steve Parish Publishing).

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## Introduction

The mere mention of the word “monitoring” tends to send shivers down the spines of many land-managers and natural resources technicians alike. Nevertheless, most land-managers regularly monitor the natural resources on their properties. However, few would refer to their activities as “monitoring”, and fewer still would formalise their monitoring by keeping written records.

You will know, from casual observations as you drive around your paddocks, how well your pastures are holding up under current stocking rates. No doubt you also keep rainfall records that give you an indication of how productive your pastures are likely to be in a given season. You probably keep flock or wool-clip records in a pocket note-book or on a computer. Perhaps you also keep a mental note of where and when you last saw a koala or particular type of bird on your property.

All of these observations are forms of monitoring; some related to production and economic welfare, and others from a natural resource condition perspective.

## Why monitor?

Economic and environmental imperatives to improve natural resource management, and increasing involvement of land-holders in property and catchment planning, has seen a rise in the number of land-holders seeking to monitor their natural resources and make more targeted decisions about property management.

By monitoring the condition of your natural resources – soils, pastures, woody vegetation, water quality and biodiversity – you will be better able to fine-tune your management to accomplish more productive and sustainable farming practices.



## The Traprock Resource Monitoring Toolkit

The Traprock Wool Association conducts several natural resource monitoring activities on behalf of its members, particularly relating to pasture condition and water quality. Some individual land-holders also conduct monitoring programs to inform their own property planning and management.

However, until now there have been no guidelines or monitoring formats developed specifically tailored to the local environment and wool industry. Most tools already available are either too generic or have been developed for quite different landscapes and production systems.

The Traprock Resource Monitoring Toolkit is custom-made for Traprock landscapes and with local wool-production systems in mind. However, the kit is designed to be adaptable to landscapes and wool-production systems in other regions.

The kit is especially significant in that it was built to inform emerging Environmental Management Systems (Traprock Integrated Management System) and sub-catchment planning being undertaken by regional natural resource management bodies.

The primary aim of the kit is to provide you, the land-manager, with greater capability to undertake relevant and simple, but meaningful monitoring of your natural assets.

The toolkit comprises this Field Guide, a series of Data Sheets and a collection of web-based tools that help you interpret monitoring data and use it to enhance your property planning and management.



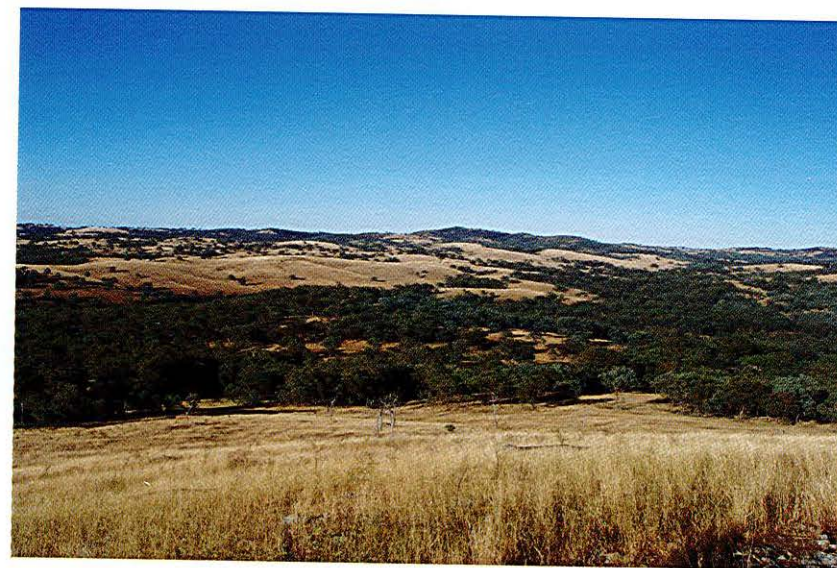
## The Traprock Pasture and Biodiversity Monitoring Field Guide

This field guide provides a set of tools to help you monitor pasture condition, native vegetation and habitat values on your property.

Each section provides information specific to one or more of the data collection forms that can be found in the Traprock Resource Monitoring Toolkit.

There are photo-standards of pasture yield, ground cover and woody vegetation density, plus photographic identification guides to key pasture grasses and a suite of important birds in the Traprock region.

It is intended that you keep this Field Guide handy (e.g. in the glove-box of your farm ute), for reference when collecting monitoring data. You may also find yourself referring to it at other times (e.g. to identify grasses) as you go about your daily activities.



## Pasture monitoring

Most land managers have a pretty good idea of the seasonal fluctuations in their pastures and the overall carrying capacity of their properties or individual paddocks. However, relatively few people take the time to make and keep a permanent record of changes in pasture yield and condition over the longer term.

This guide, when used with the accompanying data sheets, provides a simple but reliable format for landholders to observe and record changes in pasture productivity. This data can then be entered into the private monitoring data set in your property page on the Traprock monitoring website. The data so stored may then be used to show trends and help you to plan future management actions to improve your productivity.

There are several key things to observe and record in a good pasture monitoring program:

- *pasture yield* (standing dry matter) indicates your “feed on hand”
- *total ground cover* indicates pasture condition and the degree of soil erosion protection being afforded by your pasture
- amount of *organic litter* cover indicates what is available for break-down into humus, therefore maintaining and revitalising soil nutrient levels
- *relative proportions of productive, unproductive and weedy plants* indicates pasture health and productive capacity

The following pages provide a series of photo-standards for pasture yield and cover, as well as a photographic guide to the identification of key pasture grasses.

## Pasture yield

### Estimating pasture yield

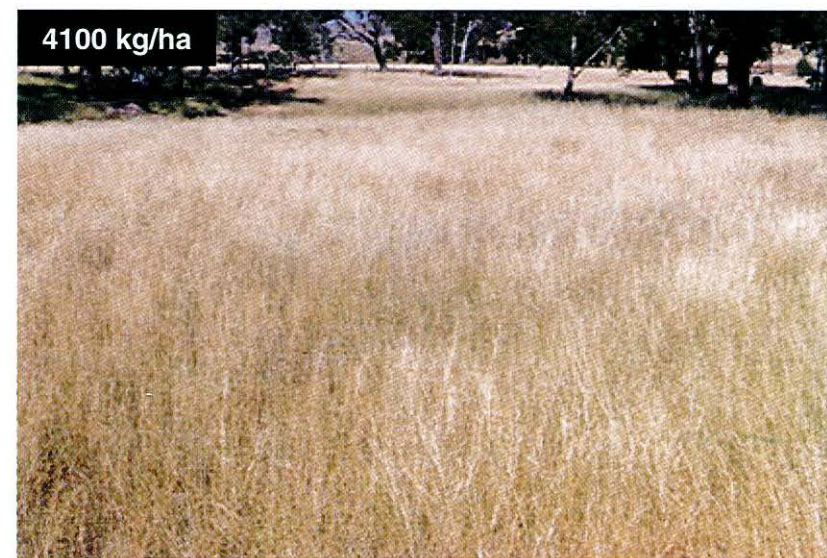
Use this set of photo standards to estimate the amount of available forage in your paddocks.

Look at the pasture in various parts of each paddock (or at set monitoring sites) and compare it with each photo. Average your estimates over all sites for the paddock to get a “ball-park” figure on pasture yield.

You may then use the pasture yield to calculate stocking rate for the season.

Remember that you should aim to utilise only 30% of total yield for a sustainable pasture.

Calculators for stocking rate based on yield are available on the Traprock Monitoring Website.



Tall, dense, bulky perennial grass cover; no open spaces or areas of bare ground

## Pasture yield

1850 kg/ha



Dense, perennial grass cover; few or no open spaces or bare ground

1250 kg/ha



Fairly dense, patchy grass cover; bare ground occupying less than one third of area.

## Pasture yield

550 kg/ha



Sparse to moderate, perennial grass cover; noticeable bare spaces between tussocks.

180 kg/ha



Sparse cover of grasses; little or no standing dry matter; bare ground predominates.

## Ground cover

### Estimating total ground cover

Ground cover is an important indicator of pasture condition and is also important in protecting the soil surface from erosion. Pastures in good condition have a high proportion of ground cover provided by perennial grasses and organic litter. Declining ground cover, leaving large areas of bare ground, is indicative of diminishing pasture condition and increased risk of soil erosion and nutrient loss.

Aim to retain 70% total ground cover over all your paddocks, with a high proportion (more than half) contributed by perennial grasses.

Use the photo standards here to estimate the total ground cover in your paddocks or on specific monitoring sites. Each photo represents a percentage level at the upper or lower boundary of each cover class shown on the accompanying data sheet.

There are two or three photos for each cover level:

- a vertical shot of a small quadrat in green, short-grass pasture
- one or two oblique shots into a larger area of pasture
  - one dominated by grass in an open pasture situation
  - one dominated by litter in timbered country

It will be helpful to compare a few photo standards to determine the cover level in each of your monitoring sites.



## Ground cover

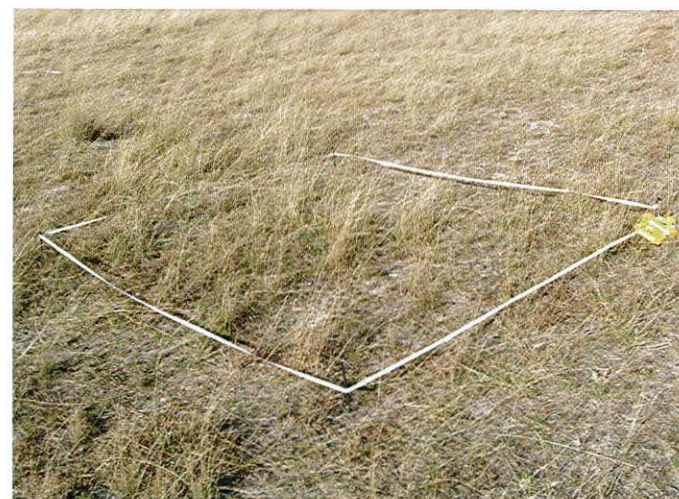
20% total cover



**Ground cover**  
40% total cover



70% total cover



**Ground cover**  
70% total cover



90% total cover



**Ground cover**

90% total cover



## Indicator species and pasture condition

The presence and abundance of certain plants can tell you a lot about how healthy your pasture is. An abundance of unpalatable grasses (e.g. wire grass) is a pretty good indicator of an over-utilised pasture.

By monitoring the presence and relative abundance of a number of *indicator species* in your pasture, you will keep track of trends in pasture condition and productivity.

Indicator species can be separated into three categories:

**Desirable** or “decreaser” species that improve productivity

- also called “**3P grasses**” = ***P*erennial, *P*roductive, *P*alatable**
- abundance and vigour **decrease** under heavy grazing because stock graze them preferentially

**Intermediate** species that only sometimes produce valuable forage

- may be less preferable to stock than desirable species
- may **increase** under heavy grazing, thus reducing overall pasture quality
- includes both annual and perennial species

**Less desirable** or “increaser” species that reduce productivity

- abundance and vigour **increase** under excessive grazing because stock tend not to eat them
- tend to be very drought tolerant
- include native plants and introduced pasture weeds
- some are undesirable also because they contaminate wool

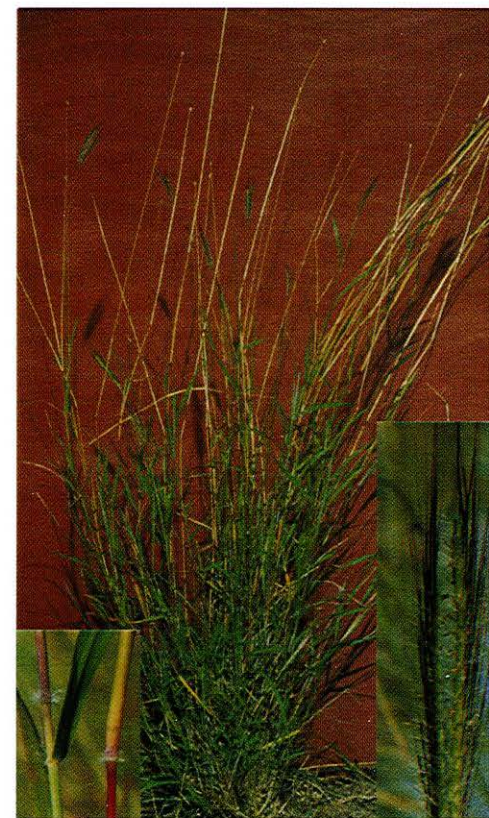
Learn to identify a few of the key species in each of these indicator categories, and you’ll be able to recognise subtle changes in pasture condition over the years.

An increase in relative abundance of less desirable species (“increasers”) indicates declining pasture condition

Refer to the photos in this section when you are monitoring your pasture condition each season.

The pasture assessment sheet in this kit, asks you to determine the proportion of the pasture made up by desirable, intermediate and less desirable grasses.

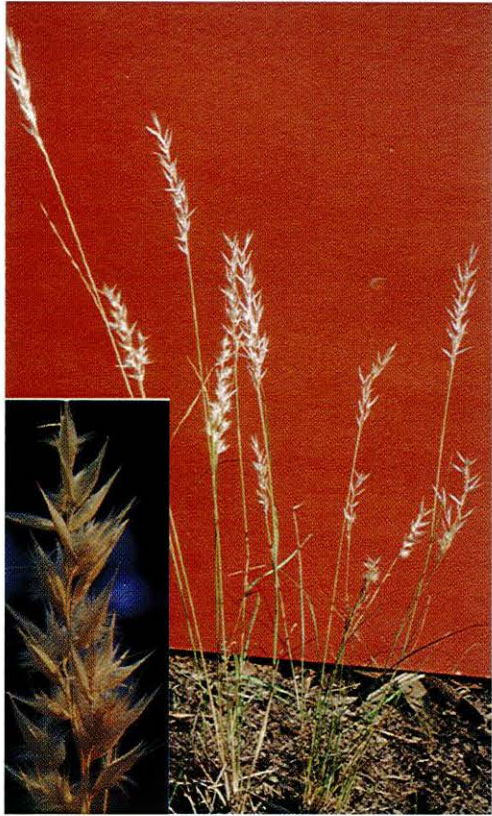
## Desirable grasses



**Queensland blue-grass**  
**(*Dicanthium sericeum*)**

Tall, erect, slender perennial; stems branched at base, with hairy nodes (inset left); seed-head (inset right) fluffy and leaves tuft of hair on tip of stem when it falls. Highly palatable and resistant to moderate grazing pressure. A **decreaser** when subjected to constant heavy grazing.

## Desirable grasses



**Wallaby grass**  
*(Danthonia tenuior)*

Fine, erect, perennial grass with oat-like seedhead; smaller than blue-grass and wire grasses. Highly regarded forage capable of production under cooler conditions. *Decreaser* species that does not persist under constant and heavy stocking.

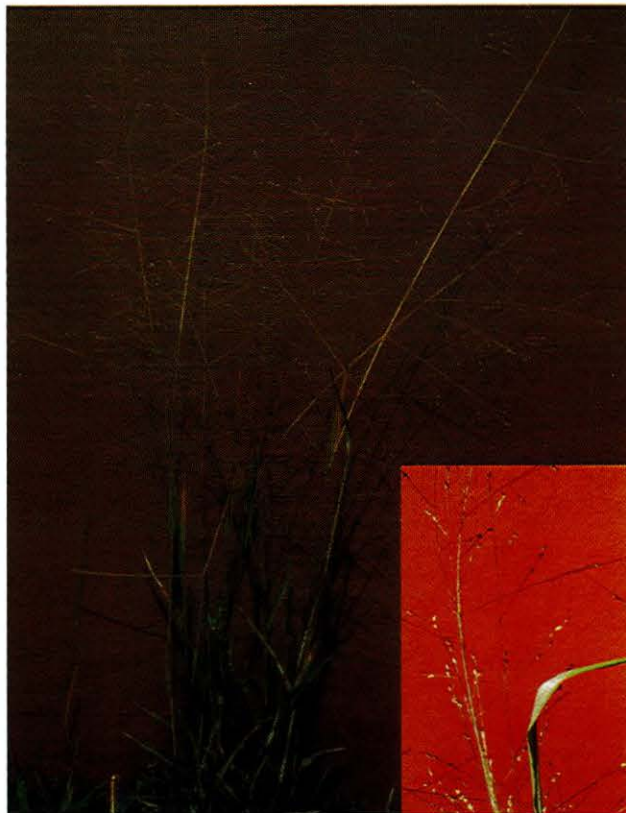
## Desirable grasses



**Silky brown-top**  
*(Eulalia aurea)*

Erect perennial grass characterised at maturity by reddish-brown leaves and brown, silky-hairy seed-head. Drought-resistant summer grower; palatable when young, but ignored by stock when dried off. *Decreaser* species; not tolerant of heavy grazing.

## Desirable grasses



**Native millet, hairy panic**  
*(Panicum effusum)*

Erect, perennial to 60 cm high; hairy stems; large, open seed-head with small seeds. Small component of pasture, but valuable feed in summer. **Decreaser** under heavy grazing, but regenerates rapidly under light grazing, producing continual feed through the growing season

## Intermediate grasses



**Pitted blue-grass**  
*(Bothriochloa decipiens)*

Tall, erect, perennial grass, stooling out at the base. Seedheads greenish-purple and hairy; seeds with distinct pit (see inset). Palatable, but not grazed if other grasses are available. Drought resistant and tolerant of heavy grazing.

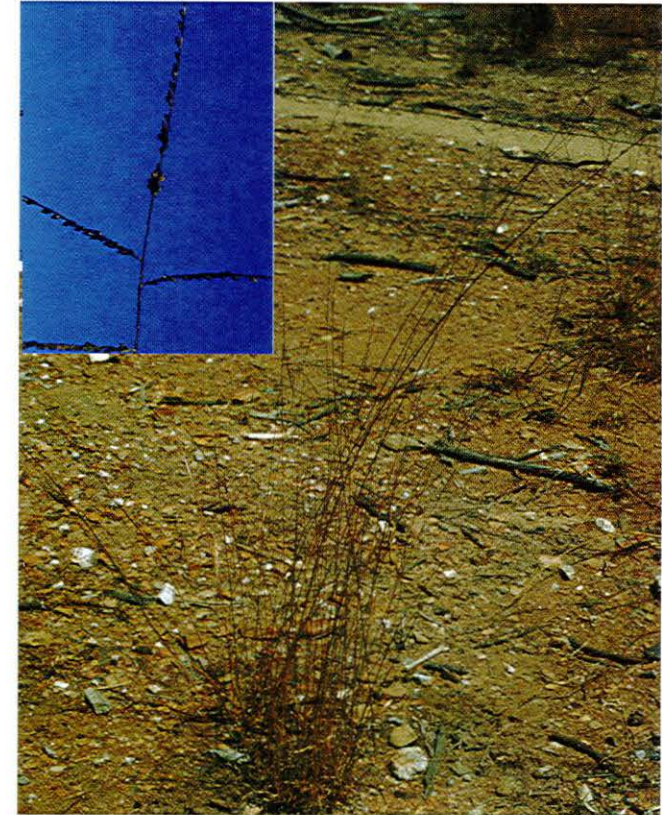
## Intermediate grasses



**Windmill grass**  
*(Chloris truncata)*

Low-growing grass with dense, leafy crown and stems bent near the base. Summer growing; killed out by winter frosts. Tends to be an increaser, favouring disturbed areas where vigour of other grasses has been weakened. Palatable when young but not when mature.

## Intermediate grasses



**Digitaria, native digit grass**  
*(Digitaria breviglumis)*

Fine, erect, perennial grass; summer growing; found commonly in recently cleared areas. Generally unpalatable, and of little feed value.

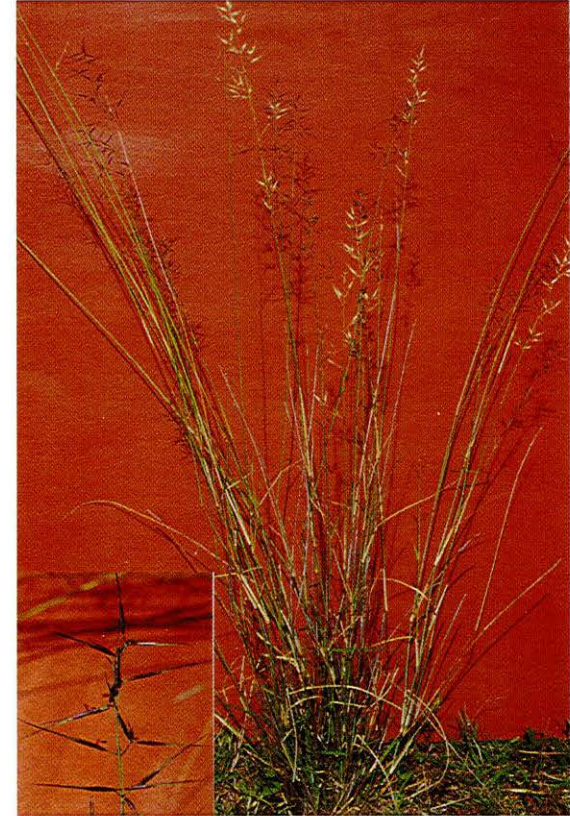
## Less desirable grasses



**Wire-grass, three-awn spear-grass**  
(*Aristida ramosa*)

Tall (>1 m), tussocky perennial, with tough, wiry stems; commonly found along creek frontages. Unpalatable except when very young; an increaser under continuous grazing; irritates stock and causes wool contamination

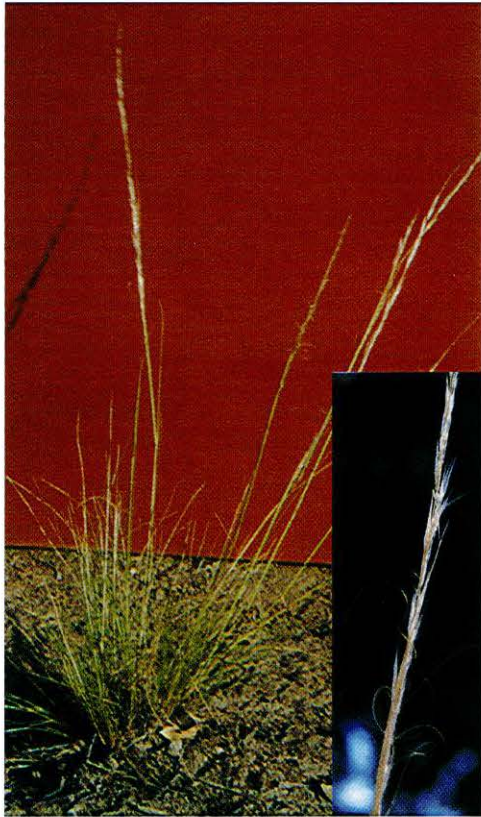
## Less desirable grasses



**Spear grass, dark wire-grass**  
(*Aristida calycina*)

Tufted, erect perennial, with coarse, tough stems and characteristic purple to straw-coloured seed-heads. Unpalatable and drought resistant increaser species; seeds contaminate wool and irritate stock.

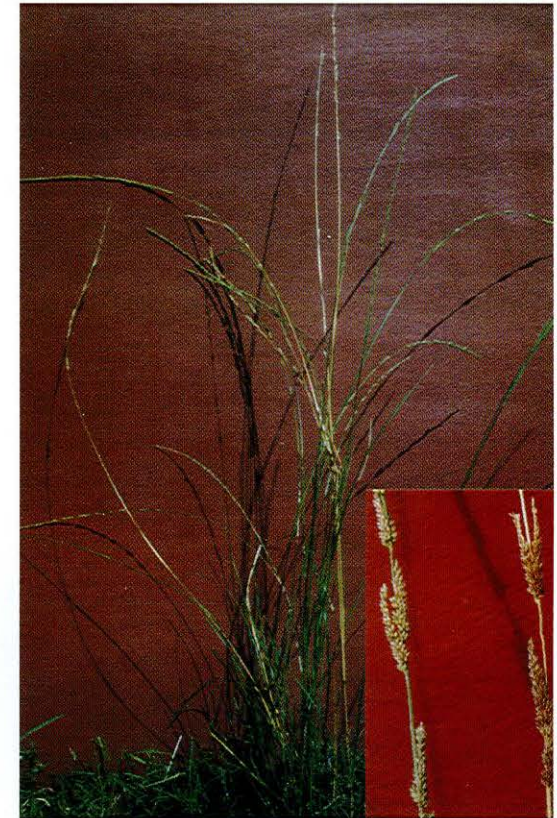
## Less desirable grasses



**Rough spear-grass, corkscrew grass**  
*(Stipa scabra)*

Slender, erect, perennial grass; seeds with long awns that impart a corkscrew action on seeds, driving them into skin of stock. Young plants and new growth palatable, but not grazed once seed ripened

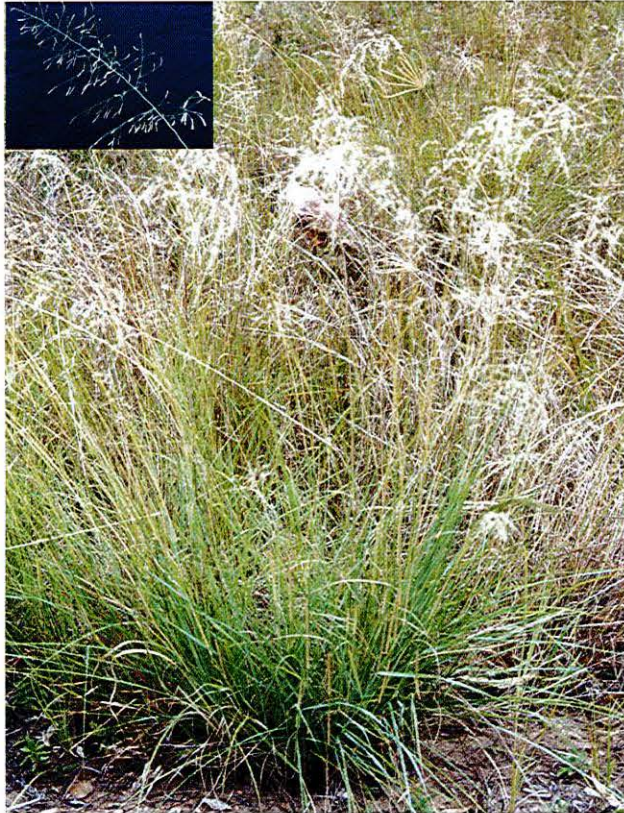
## Less desirable grasses



**Western or slender rat's-tail grass**  
*(Sporobolus creber)*

Tall, stalky, perennial grass with narrow, compact seed-heads. Widespread and common, but rarely abundant. May be eaten when young, but of low nutrient value; generally unpalatable and persistent under heavy grazing

## Less desirable grasses



**African lovegrass**  
*(Eragrostis curvula)*

Slender, erect, perennial, forming dense, robust tufts up to 1.2 m tall. Stems have purple joints; triangular seed-head dark olive-grey. Drought tolerant with low forage value. Common along roadsides and *invasive* in pastures. Heavy grazing when young and through the growing season offers control potential, if followed by lenient grazing to promote other grasses.

## Less desirable grasses



**Coolatai grass**  
*(Hyparrhenia hirta)*

Coarse, densely tufted, perennial to over 1 m tall; readily establishes in disturbed areas, and can be *invasive* in pastures. Unpalatable to sheep, but grazed by cattle. When heavily grazed and kept low, it will produce high quality, palatable forage. Drought tolerant, but frost sensitive.

## Biodiversity monitoring

Sounds complicated, doesn't it?

Biodiversity is a pretty daunting concept in its own right, let alone how to monitor it.

### What is biodiversity?

The term "biodiversity" simply refers to the variety of life that surrounds us and upon which the human species depends for survival.

It encompasses all the micro-organisms, animals and plants, both domestic and wild, that we farm or see in our bushlands. It also includes the enormous variety of genes that make individuals and populations different. At the other end of the scale, biodiversity refers to the variety and functionality of whole ecosystems, both human-made and natural.

### How can biodiversity be monitored?

Despite the apparently complex nature of biodiversity, we can break the local environment down into a few small but significant *indicators*. Just as pasture indicators show how productive your pasture is, biodiversity indicators can help determine how intact or healthy local ecosystems are.

Biodiversity indicators are used at several scales.

At sub-catchment or *landscape scale*, we need to monitor the *spatial arrangement of native vegetation*: what is it, where is it, how much is there, and how well is it connected through the landscape?

The theory behind landscape-scale monitoring is discussed in the fact sheet entitled "Landscape Management Principles", available on the Traprock Toolkit web-site.

Landscape-scale features generally change steadily over many years, so monitoring is done less frequently (e.g. every ten or so years).

Use the Traprock Toolkit "Monitoring Site Classification" data sheet to describe the landscape features of each of your monitoring sites.



At *property scale*, the arrangement of native vegetation is also important, but the *complexity and condition of vegetation* (and the habitats it provides) is more significant.

Vegetation *complexity* determines the amount of available *habitat* for a range of animals and plants. It is related to the amount of vegetation layers (trees, shrubs, ground-layer plants) and logs, litter and standing dead trees that are present in a given patch of bush.

Complexity is influenced by interactions between natural conditions and management activity. Time scale for monitoring of complexity change is in the order of five to ten years.

Use the Traprock Toolkit "Habitat Complexity Assessment" data sheet to record changes in complexity at your monitoring sites.

Vegetation (or habitat) *condition* is about how healthy the habitat is: are the trees surviving and reproducing, are there many weeds in the ecosystem, is there an uneven balance in the age of trees?

Condition is likely to change over the shortest of time scales and should be monitored every two to five years.

Use the Traprock Toolkit "Habitat Condition" data sheet to record changes in condition at your monitoring sites.

### Monitoring key or indicator species

The above monitoring targets will give an overall picture of how your landscape and property are faring in regard to maintenance of biodiversity.

Some species or groups of animals may also be used as indicators of biodiversity condition. In particular, birds are good indicators of the overall diversity and health of landscapes and vegetation patches.

The value of birds as indicators is discussed later in this section of the Field Guide, and a range of indicator species ("Traprock's special birds") are also depicted.

You may wish to keep a record of any of these species that you see on your property, or at particular monitoring sites. If one or more are regularly observed, then it probably means your woodland habitat is in reasonably good nick.

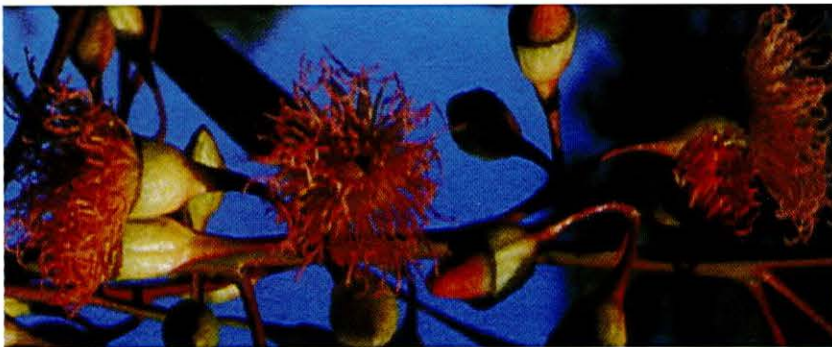
## Traprock trees

Trees define the landscape and are generally used to describe the type of native vegetation that exists on properties (e.g. ironbark woodland or box flats).

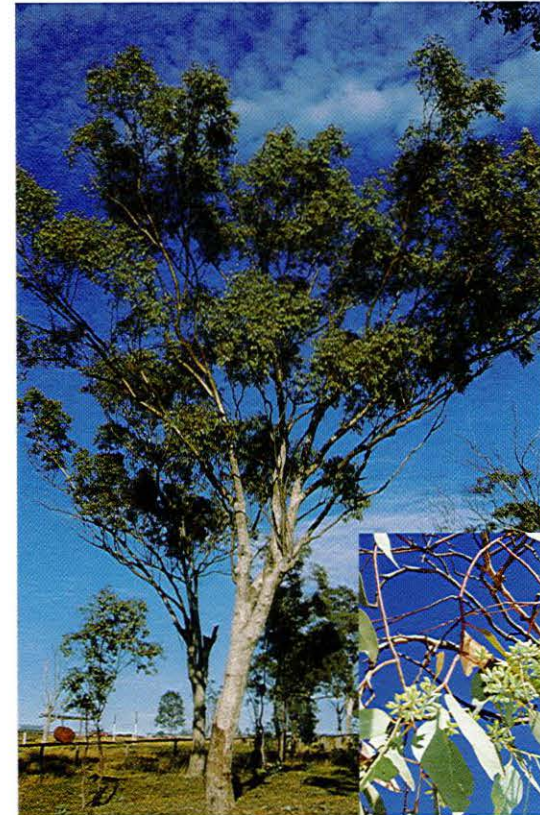
By naming the trees present at a particular location, one can quickly get a picture of the type of soil, position in the landscape, pasture type and types of birds or other animals that might be present.

In the Traprock Monitoring Toolkit, landscapes (and farms) are divided up and described according to the dominant trees present plus their density.

This part of the field guide is a photographic identification guide to the main tree species likely to be encountered on Traprock properties. Most landholders will already know many of these trees, but may find some subtle differences described here that help them more accurately describe the vegetation for their farm monitoring records



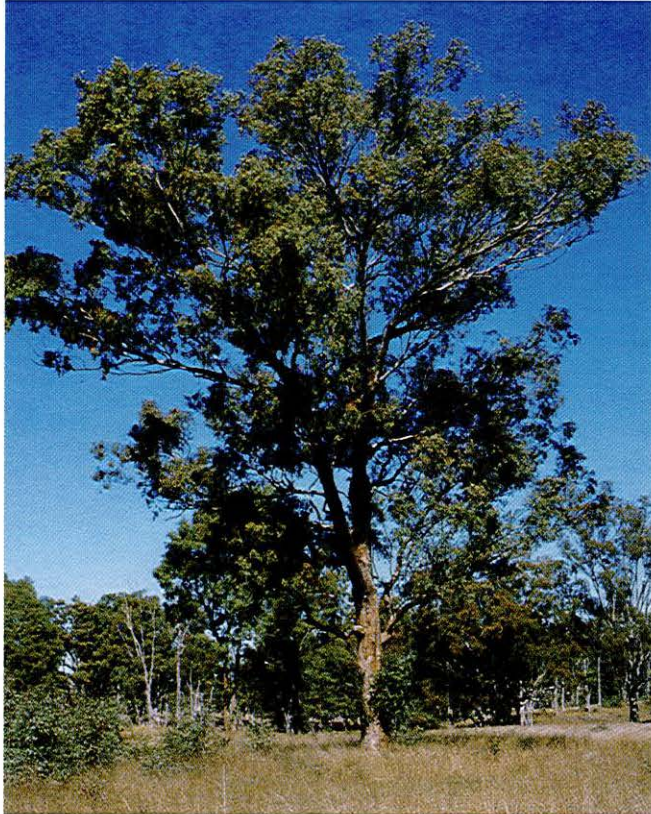
## Traprock Trees



**White box**  
*(Eucalyptus albens)*

Large box tree with light coloured fibrous “box” bark, often with large white bleached patches. Leaves are narrow, three to eight times as long as broad, and have long stalks. Both buds and flowers are small and whitish. Grows on a wide range of soils throughout New South Wales and southern Queensland. An important species for honey production.

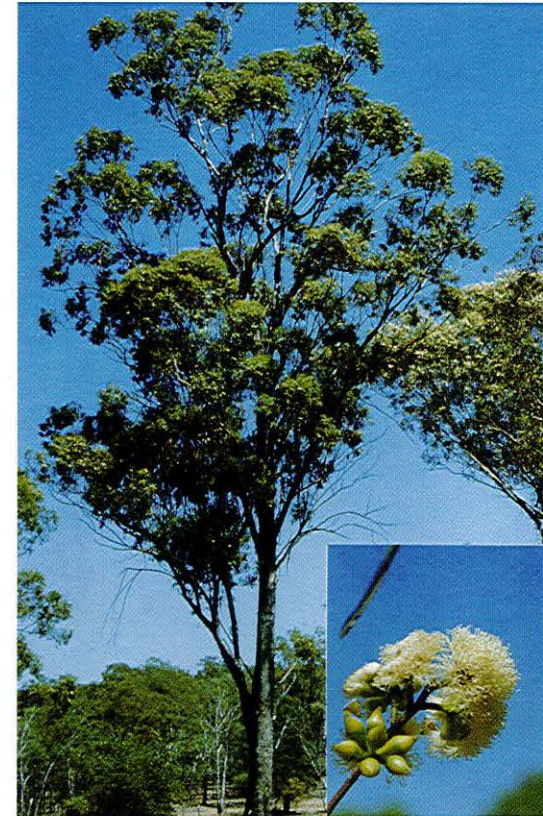
## Traprock Trees



**Yellow box**  
*(Eucalyptus melliodora)*

Large box tree with light brown flaky, fibrous “box” bark at the base of the trunk, with the upper trunk and branches bare of bark and smooth white to light brown. The inside of the bark is a bright yellow colour, and leaves (particularly juveniles) have three distinct veins, a centre vein and another just in from the margin on each side of the leaf. Flowers are white, buds small with a short pointed lid. Generally grows on deeper soils in flats and adjacent to creeks.

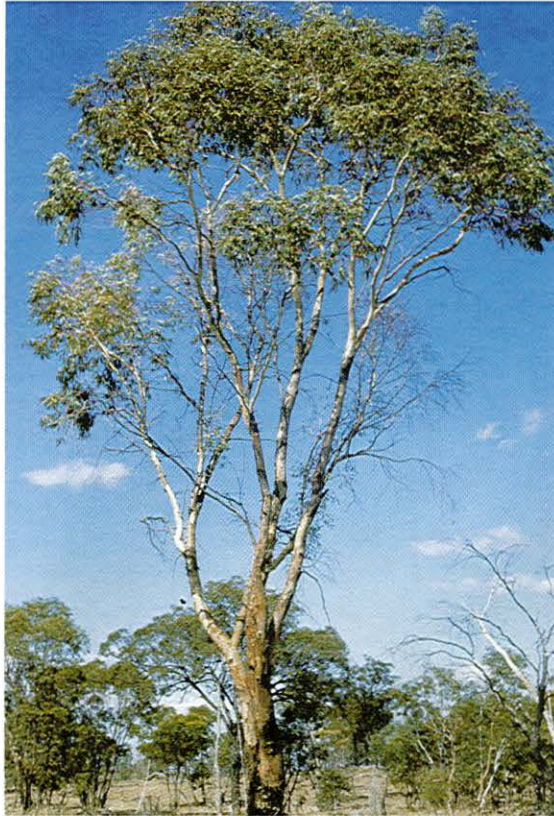
## Traprock Trees



**Grey / gum-topped box**  
*(Eucalyptus microcarpa)*

A tall, straight slender tree with fibrous light grey “box” bark on the lower trunk and smooth white to light grey upper trunk and branches. Leaves are long and narrow. Flowers are white; buds small with short, pointed cap. Grows in deeper soils on gentle slopes and flats.

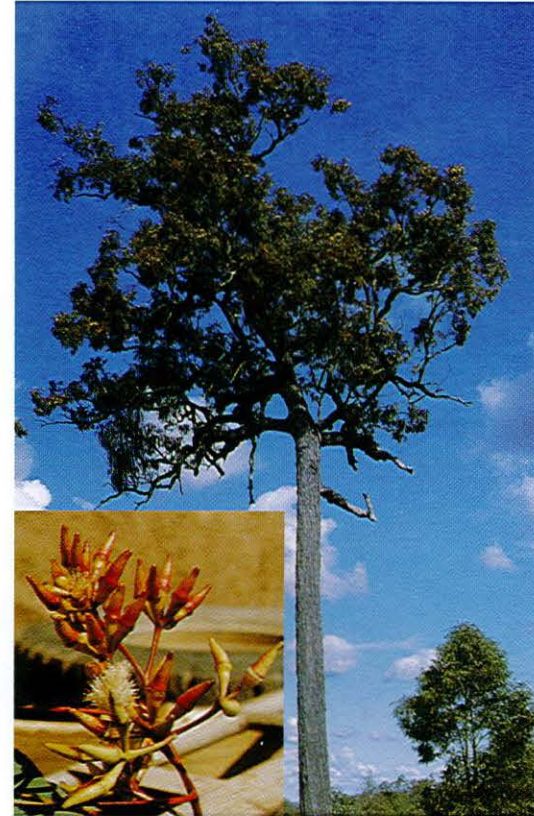
## Traprock Trees



**Tumbledown / mountain gum**  
*(Eucalyptus dealbata)*

Small to medium-sized tree with rough light brown flaky bark at the base of larger trees. Trunks and branches are smooth and whitish with brown or grey blotches. Flowers are white, buds small with rounded lids. Grows on stony ridges, regenerates vigorously through mass germinations. The timber is weak and useless.

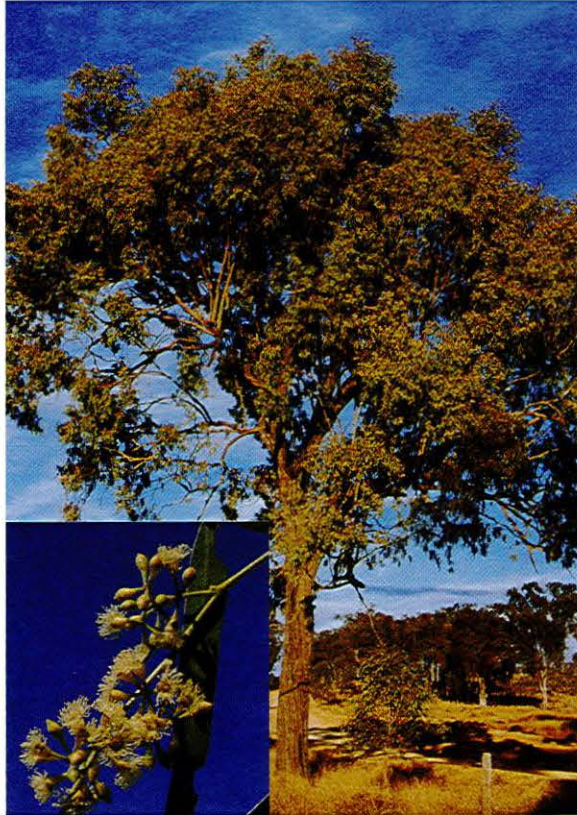
## Traprock Trees



**Broad-leaf ironbark**  
*(Eucalyptus fibrosa)*

Large, tall, straight tree which can exceed 30m in height. Bark is greyish-black to black, deeply and coarsely furrowed. Mature leaves are three to six times as long as they are wide. Leaves on suckers may be nearly as wide as they are long. Grows on gravelly ridges throughout the area. Buds are large, often reddish with a distinctive long horn-shaped lid. Extensively used for sawn timber, posts and rails. Dusky leaved ironbark (*E. fibrosa* subspecies *nubila*) is similar in appearance but distinguished by the blue-grey bloom on the twigs, leaves and leaf stalks.

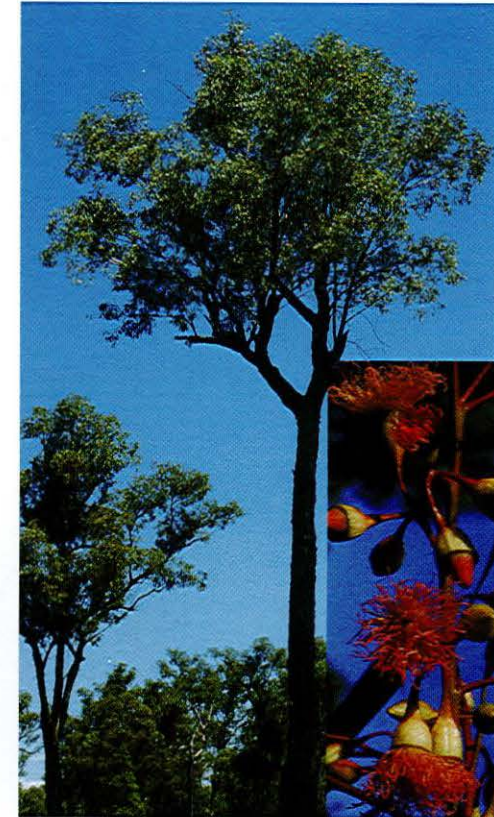
## Traprock Trees



**Narrow-leaf ironbark**  
(*Eucalyptus crebra*)

Tall straight tree up to 30m in height with thick, deeply furrowed, dark grey to black bark. Leaves about seven or more times longer than wide, up to 150mm long. Buds are small and rounded generally. The tree is widespread in south-east Queensland on stony or sandy soils. An important commercial timber species.

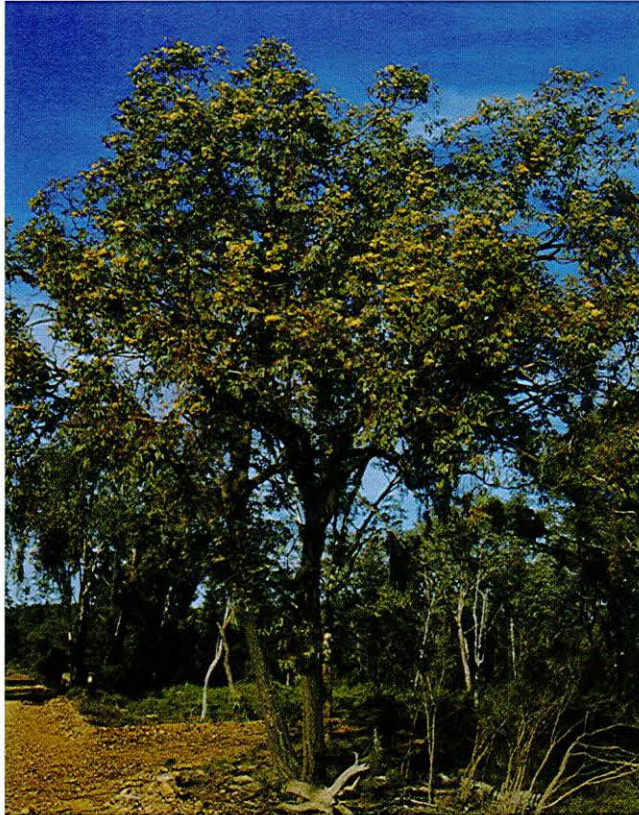
## Traprock Trees



**Mugga / red ironbark**  
(*Eucalyptus sideroxylon*)

Large straight tree growing to 30m in height, with very thick, black, deeply furrowed bark. Flowers are large and range in colour from red through pink to white. Buds have short pointed lids that are narrower than the lower part of the seed capsule. Flowering is concentrated in the cooler months. Generally found growing on lower slopes of stony hills.

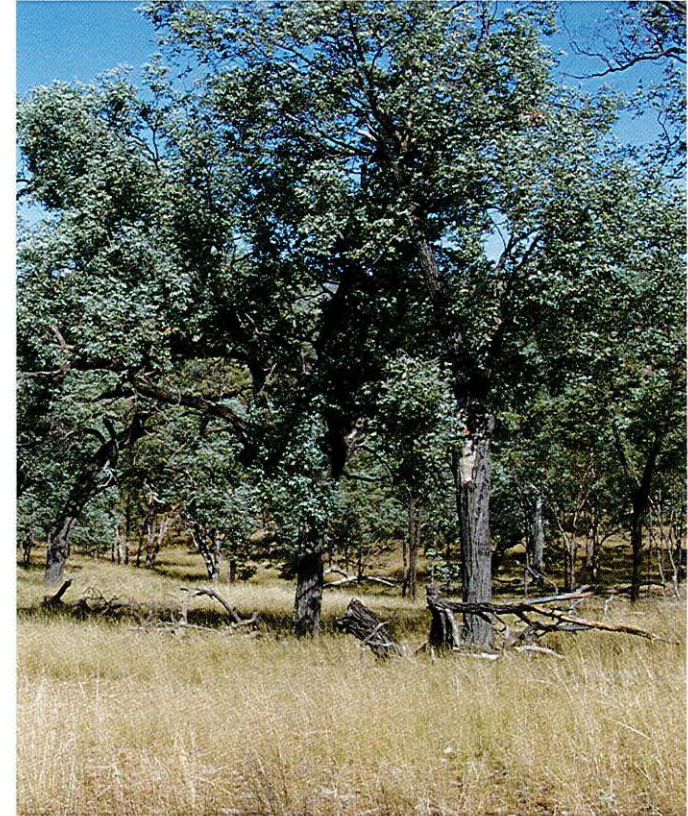
## Traprock Trees



**Caley's ironbark**  
*(Eucalyptus caleyi)*

Medium sized ironbark tree growing to 12m high, trunk often not straight, with furrowed, black bark. Leaves are grey or silvery on distinct stalks. Buds are sharply pointed and have lids that are narrower and scarcely as long as the rest of the bud. Flowers are creamy white to pinkish. Found growing on stony or rocky ridges on the tablelands of north east NSW or south east Queensland.

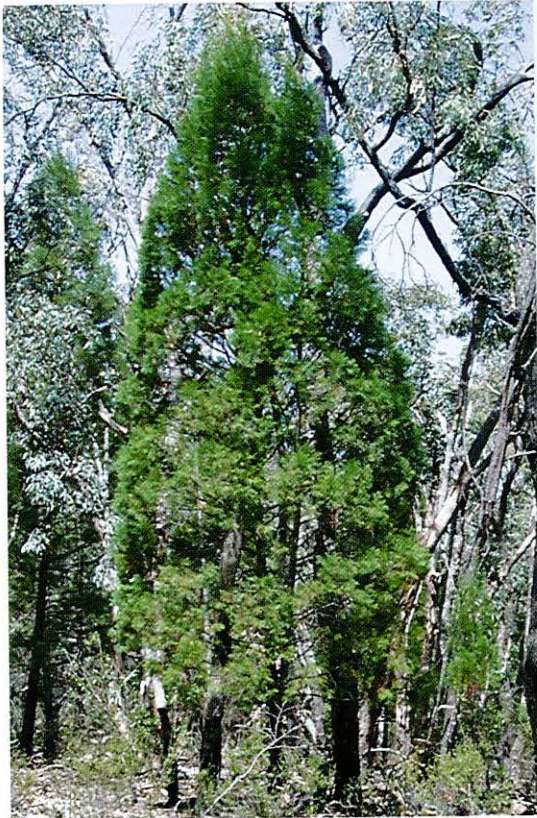
## Traprock Trees



**Silver-leaf ironbark**  
*(Eucalyptus melanophloia)*

Tree to 20 m tall with deeply furrowed, dark grey or black bark. Leaves opposite, usually without stalk, broad, rounded, silvery-grey, with lobed base. Flowers white; buds silvery, on long stalk with rounded or conical cap; seed capsules cup-shaped or rounded, often silvery. More common in south of region, replacing narrow-leaved ironbark on ridges.

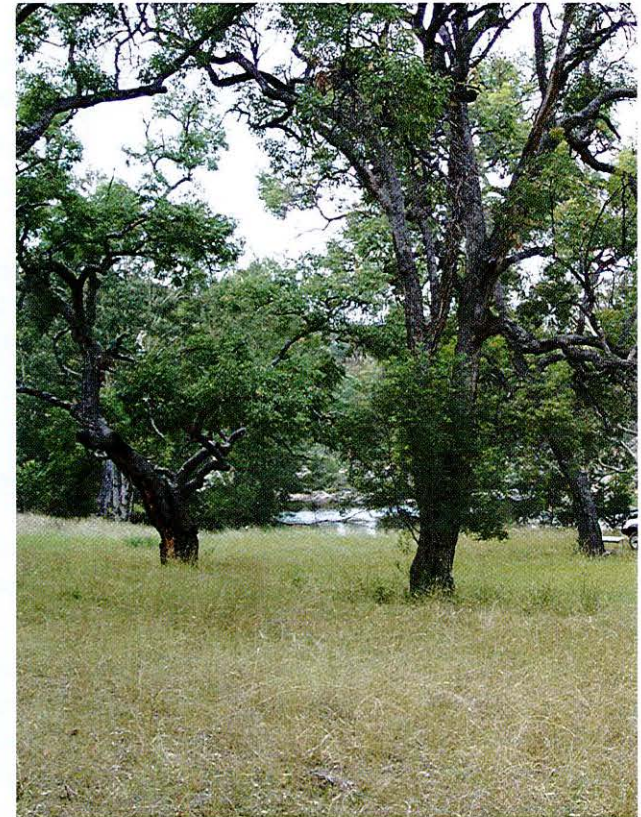
## Traprock Trees



**Black Cypress**  
(*Callitris endlicheri*)

Green to silvery tree to 15 m, with spreading branches. Bark dark grey, furrowed in older trees. Cones with six (3 large and 3 small) thick, spreading scales; borne singly or in small clusters at end of fruiting branchlets. Occurs on rocky sites and shallow soils. White cypress (*C. glaucophylla*) also occurs in region, usually on deeper, sandy soils. Distinguish by paler grey bark, better form and thinner cone scales.

## Traprock Trees



**Rough-barked apple**  
(*Angophora floribunda*)

Medium to large tree to 30 m tall. Bark grey to brown, furrowed, fibrous. Leaves opposite; long, narrow, pointed, on distinct stalk; dark green above, lighter below. Flowers white or creamy-white; buds globe-shaped and ribbed; seed capsules cup- or barrel-shaped, thin-walled, with distinct ribs. Grows predominantly in lower-lying areas, usually associated with water-courses.

## Birds as indicators of biodiversity

Research in agricultural landscapes has shown that birds can be good indicators of landscape health and overall biodiversity condition.

Most people have a good knowledge of the common birds on their properties, and many are keen observers of the seasonal comings and goings and breeding activity of certain species.

This scientific and local knowledge, plus the relative ease of observing birds in the paddock, means that bird monitoring is one of the simplest forms of biodiversity monitoring that land managers can undertake.

### *Traprock's special birds*

The Traprock region is blessed with a range of woodland bird species that are suffering serious population declines in south-eastern Australia. At present, it looks like many of these birds may be reasonably secure in the Traprock region, but it's important that their populations be monitored to ensure they don't go the way of their mates down south.

Land-management practices relating to native vegetation retention and regrowth control have no-doubt played an important role in retaining suitable habitat for these birds in the Traprock region. By carefully planning where, how and when regrowth control occurs, and how much native vegetation is left in the landscape, Traprock land-holders will ensure the survival of these bird populations.



Photo: Chris Herbert/wildlifing.com

## Traprock's special birds



Photo: Helen Fallow

### **Brown Tree-creeper**

**Appearance:** Sturdy bird with short tail; greyish head, brown back; fawn eyebrow; lightly streaked breast is pale above darkly striped belly; under-tail feathers are patterned black and white. In flight shows lighter wing-bar.

**Behaviour & Habitat:** In pairs or small family groups in drier woodlands where it forages on tree trunks, fallen timber and the ground. Flight is undulating interspersed with fast gliding.

**Significance:** Makes extensive use of fallen timber, stumps, dead trees and ground-litter for foraging. Nests in hollows of dead trees and in stumps. This species is disappearing from the more intensively managed production areas where standing dead timber, fallen timber and ground litter have been removed. The Traprock region still retains many of the habitat characteristics required by this species, but its continued presence will depend on sound woodland retention and management practices.

## Traprock's special birds



Photo: Chris Cameron

### Grey-crowned Babbler

**Appearance:** Generally brown bird with pale crown and underparts; strong dark line through eyes gives the bird the appearance of a bandit. The long bill is down curved. In flight the white tips on the tail are conspicuous.

**Behaviour & Habitat:** Mostly occurs in noisy family groups which forage together on the ground and in trees. Often huddles in excited groups when a food source is located. When at rest the birds sit close to each other and often preen the one next to them. When disturbed, they float on broad wings away from the disturbance or scamper quickly up through tall trees before floating down at a distance.

**Significance:** Populations have declined significantly in woodlands across southern Australia, largely due to habitat destruction and fragmentation for rural development. In some regions they are now locally extinct. In the Traprock region they are still secure but have declined or disappeared from some intensely farmed areas of the nearby Darling Downs.

## Traprock's special birds



Photo: Helen Fallow

### Diamond Firetail

**Appearance:** Red bill and rump; grey head; brown back and wings; belly is white with solid black breast band and flanks; the black flanks are white-spotted.

**Behaviour & Habitat:** Occurs singly; in pairs or flocks, feeding on the ground amongst long native grasses. When it is disturbed it flies to safe perches with a bouncing flight that shows red rump. Usually perches on high tree branch near water before coming in to drink.

**Significance:** Populations have declined significantly in woodlands across southern Australia, largely due to habitat destruction and fragmentation for rural development. They have virtually disappeared from nearby regions, largely due to clearing of habitat. The Traprock region is now a stronghold for the species in southern Queensland. Continued retention and appropriate management of woodlands, regrowth and pastures (to provide seed) will ensure it continues to thrive in the region.

## Traprock's special birds



Photos: Ian Montgomery/birdway.com.au

### Plum-headed Finch

Main photo male; inset female.

**Appearance:** From a distance appears to be plain brown; closer view shows plum-coloured forehead; brown and white barring on chest and belly, white spots on back and wings and white barring above a black tail. Male has a plum-coloured throat.

**Behaviour & Habitat:** Locally and seasonally nomadic; occurs in small groups/ large flocks in the tall grasses of open pasture, reeds of wetland fringes and grain crops. Forages on the ground; climbs long stalks to swing from seed heads; flight is undulating and strong.

**Significance:** Probably less threatened than some of the other woodland birds due to its nomadic habits enabling it to move around between food sources. However, highly dependent upon good supply of grass seed throughout the year, so can be adversely affected by grazing management practices that prevent abundant seed-set.

## Traprock's special birds



Photos: Helen Fallow

### Red-capped Robin

Main photo male; inset female.

**Appearance:** The tiny male is glossy black with red cap and breast; has distinct white wing markings, tail edges and under parts are white. Female is brown above with soft red wash on forehead and occasionally on generally whitish breast; white wing marks and tail edges are less distinct than those of male.

**Behaviour & Habitat:** Occurs singly or in pairs in open inland woodlands where it perches on low branches or dead stumps before pouncing on or snatching prey; wings are often drooped when it is perched.

**Significance:** The red-capped robin has declined in many woodland areas due to habitat loss through extensive clearing, or modification of habitats by "cleaning up" of understorey and fallen timber. It needs well-connected woodland areas with good ground cover of leaf-litter and fallen timber and abundant perches, such as low branches and stumps.

## Traprock's special birds



Photos: Helen Fallow

### Hooded Robin

Main photo male; inset female.

**Appearance:** The male is the only black and white robin. Head, neck, upper chest and back are black above white underparts and white surrounds on the back giving this robin a hooded appearance; wings are black with a white bar; tail is black with white side panels. The female is grey brown, fading to almost white on lower belly; wings are dark grey with white wing bars; tail is dark grey with white side panels.

**Behaviour & Habitat:** Prefers drier woodlands with fallen logs, stumps and ground litter. Uses open paddocks that have stumps, dead trees and re-growth. Perches on logs, stumps etc to watch for prey which it captures by ground-pouncing or hawking after flying insects.

**Significance:** The Hooded Robin is declining in settled areas right across its range. It has disappeared from some larger reserves. This species is very sensitive to habitat alteration and appears to require large intact areas of good woodland for survival.

## Traprock's special birds



Photo: Helen Fallow

### Eastern Yellow Robin

**Appearance:** Dark grey upper parts; brilliant yellow underparts and rump.

**Behaviour & Habitat:** Prefers denser woodlands with shrubby understorey; often in she-oak thickets along watercourses. Clings sideways to trunk of tree or sits on low branch of shrubs waiting to pounce on prey. It flees into thick cover if startled.

**Significance:** Generally occurs only in larger woodland remnants that are in good condition, or smaller remnants that are well-connected to other woodland areas (e.g. riparian strips). Very sensitive to clearing or thinning of habitat, and isolation of remnant patches from other vegetation.

## Traprock's special birds



Photo: Helen Fallow

### Speckled Warbler

**Appearance:** Back brown, streaked with lighter shades; face is creamy white and stands out against dark head and the heavily black streaked cream belly.

**Behaviour & Habitat:** Feeds mostly in pairs or small family groups, rarely singly. Feeds in shrubs but most often in the leaf litter under shrubs where there is an understorey; in leaf litter and grass clumps, around logs and rocks in more open woodland.

**Significance:** Populations have declined significantly in woodlands across southern Australia, largely due to habitat destruction and fragmentation for rural development. They have virtually disappeared from the intensively farmed areas of the Darling Downs and adjacent areas, but remain in good numbers in the better-timbered parts of the Traprock region. Retention of shrubby understorey and a diverse ground-layer (grasses, litter, logs), in large, well-connected remnant and regrowth patches is the key to their survival.

## Traprock's special birds



Photo: Chris Herbert/wildlifing.com

### Turquoise Parrot

**Appearance:** Small, ground-loving parrot with rich blue and yellow tones. Back green; face turquoise blue; wing with deep blue edge (and red patch in male); chest, belly and under-tail bright yellow; tail long, green with blue edge and yellow tip.

**Behaviour & Habitat:** Feeds quietly on ground, often un-noticed unless disturbed; flight swift and erratic, on fluttering wings, with brief glides. Prefers open woodland and sparsely timbered pastures.

**Significance:** This species has become scarce in many woodland regions that have been extensively cleared for agriculture, largely due to fragmentation of feeding and breeding habitat. Remains fairly common in the Traprock region; however, survival depends on sound remnant woodland retention policies and management of regrowth and pastures to provide balance of seed production and future woodlands.



Photo: Michael Todd/wildlifing.com

### Swift Parrot

**Appearance:** Similar to lorikeets but has long, pointed, dusky red tail and more musical call. Deep emerald green back, slightly lighter below; scarlet throat, forehead, under tail and small patches on folded wings; dark blue crown. In flight, bright scarlet under-wing contrasts with brown flight feathers.

**Behaviour & Habitat:** Flies swiftly in flocks, weaving between trees on whirring wings. Feeds, often amongst lorikeets, on blossom, scale insects and fruits. Prefers woodlands and forests with abundant flower (e.g. mugga ironbark and white box).

**Significance:** **Vulnerable** species at Federal and State levels. Regular winter visitor to southern Queensland coast and adjacent ranges, with frequent sightings in Traprock region. Favours larger tracts of remnant woodland (e.g. Durikai forest) with winter flowering ironbark and box, but relies on corridors and smaller patches on properties as it moves through the region between larger remnants.



Photo: Michael Todd/wildlifing.com

### Regent Honeyeater

**Appearance:** Boldly-patterned black and yellow bird with strong, black, curved bill. Head black with salmon-pink bare patch around eye; bright yellow edges to wings and tail; breast scalloped black and white, fading to white lower belly and under tail.

**Behaviour & Habitat:** Moves busily around tree canopies, feeding on nectar and chasing away smaller honeyeaters. Prefers ironbark woodlands (especially mugga) but also uses box and watercourse vegetation.

**Significance:** **Endangered** species at Federal and State levels. Winter migrant from southern States, relying heavily on mugga ironbark flowers for food. Very scarce; sightings scattered across the Traprock region; known to breed in Macintyre Brook headwaters. Retention and replenishment of winter-flowering ironbark-box woodlands is vital for the survival of this species. Riparian woodlands with she-oak are also thought to be significant habitat as the species appears to rely on mistletoe in the she-oak for food when box-ironbark flowering is poor or out of season.

## Traprock's special birds



Photo: Michael Todd/wildlifing.com

### Squatter Pigeon

**Note:** The bird depicted here is the northern race, with red flesh around eye. Local race has pale blue eye-ring.

**Appearance:** Heavily-built ground pigeon with dull, olive-brown back, grey breast and bright, white flank that curves up around shoulder. Distinctive facial markings in black and white; bare blue skin around eye.

**Behaviour & Habitat:** Usually in pairs or small groups, foraging for seed on ground; freezes (squats) or darts amongst grass tussocks if disturbed; flies noisily to low branch or ground at short distance if pushed too close. Prefers lightly-wooded areas with short grass and sparse tussock; always close to water.

**Significance:** The range of this species has contracted significantly from southern woodlands. Traprock is one of few areas in southern inland Queensland to retain a reasonable population. Sensitive to high grazing pressure (reduced seed production, trampling/disturbance of nests) and predation by foxes.

## Checklist of Traprock birds

This checklist is derived from the Environmental Protection Agency's "WildNet" database, and includes some birds that occur infrequently or only on the margins of the Traprock region. List is in taxonomic order, as in most bird field guides.

Emu

Australian brush-turkey

Stubble quail

Brown quail

### *Ducks, swan, grebes*

Black swan

Plumed whistling-duck

Musk duck

Australian wood duck

Pink-eared duck

Grey teal

Freckled duck

Hardhead

Pacific black duck

Australasian shoveler

Australasian grebe

Hoary-headed grebe

Great crested grebe

### *Darter, cormorants, pelican*

Darter

Great cormorant

Little black cormorant

Little pied cormorant

Pied cormorant

Australian pelican

### *Egrets, herons, spoonbills, ibis*

Great egret

Intermediate egret

White-necked heron

Little egret

White-faced heron

Nankeen night heron

Black bittern

Royal spoonbill

Yellow-billed spoonbill

Australian white ibis

Straw-necked ibis

Glossy ibis

### *Birds of prey*

Osprey

Black kite

Square-tailed kite

Whistling kite

Little eagle

Wedge-tailed eagle

White-bellied sea-eagle

Swamp harrier

Spotted harrier

Black-shouldered kite

Pacific baza

Collared sparrowhawk

Brown goshawk

Grey goshawk

Nankeen kestrel

Australian hobby

Peregrine falcon

Brown falcon

Black falcon

### *Rails, button-quail and allies*

Purple swamphen

Dusky moorhen

Eurasian coot

Painted button-quail

## Checklist of Traprock birds

Little button-quail  
Painted snipe

### *Stone-curlews*

Bush stone-curlew

### *Stilts, avocets, plovers, terns*

Black-winged stilt  
Red-necked avocet  
Black-fronted dotterel  
Masked lapwing  
Banded lapwing  
Gull-billed tern  
White-winged black tern

### *Pigeons, doves*

Crested pigeon  
Common bronzewing  
Squatter pigeon  
Superb fruit-dove  
Brown cuckoo-dove  
Wonga pigeon  
Rock dove  
Peaceful dove  
Diamond dove  
Bar-shouldered dove

### *Parrots*

Glossy black-cockatoo  
Yellow-tailed black-cockatoo  
Little corella  
Sulphur-crested cockatoo  
Galah  
Cockatiel  
Rainbow lorikeet  
Scaly-breasted lorikeet  
Musk lorikeet  
Little lorikeet  
Australian king-parrot  
Red-winged parrot

Crimson rosella  
Eastern rosella  
Pale-headed rosella  
Red-rumped parrot  
Budgerigar  
Turquoise parrot

### *Cuckoos*

Pallid cuckoo  
Brush cuckoo  
Black-eared cuckoo  
Fan-tailed cuckoo  
Horsfield's bronze-cuckoo  
Shining bronze-cuckoo  
Little bronze-cuckoo  
Common koel  
Channel-billed cuckoo  
Pheasant coucal

### *Owls, frogmouths, nightjars*

Powerful owl  
Barking owl  
Southern boobook  
Barn owl  
Tawny frogmouth  
White-throated nightjar  
Australian owl-nightjar

### *Swifts*

Fork-tailed swift  
White-throated Needletail

### *Kingfishers, bee-eaters, rollers*

Azure kingfisher  
Forest kingfisher  
Red-backed kingfisher  
Sacred kingfisher  
Laughing kookaburra  
Rainbow bee-eater  
Dollarbird

### *Lyrebirds*

Superb lyrebird

### *Treecreepers*

Brown treecreeper  
Red-browed treecreeper  
White-throated treecreeper

### *Wrens, pardalotes, gerygones*

Superb fairy-wren  
Variegated fairy-wren  
Spotted pardalote  
Striated pardalote  
Yellow-throated scrubwren  
White-browed scrubwren  
Chestnut-rumped heathwren  
Speckled warbler  
Western gerygone  
Brown gerygone  
White-throated gerygone

### *Weebill, thornbills, whiteface*

Weebill  
Yellow thornbill  
Striated thornbill  
Buff-rumped thornbill  
Yellow-rumped thornbill  
Chestnut-rumped thornbill  
Brown thornbill  
Inland thornbill  
Southern whiteface

### *Honeyeaters*

Red wattlebird  
Little wattlebird  
Spiny-cheeked honeyeater  
Striped honeyeater  
Noisy friarbird  
Little friarbird  
Regent honeyeater

## Checklist of Traprock birds

Blue-faced honeyeater  
Yellow-throated miner  
Noisy miner  
Lewin's honeyeater  
Yellow-faced honeyeater  
White-eared honeyeater  
Yellow-tufted honeyeater  
Grey-fronted honeyeater  
Fuscous honeyeater  
Yellow-tinted honeyeater  
White-plumed honeyeater  
Brown honeyeater  
New Holland honeyeater  
Painted honeyeater  
Black-chinned honeyeater  
White-naped honeyeater  
Brown-headed honeyeater  
Eastern spinebill  
Scarlet honeyeater

### *Robins*

Hooded robin  
Rose robin  
Flame robin  
Scarlet robin  
Red-capped robin  
Eastern yellow robin  
Jacky winter

### *Babblers, quail-thrush, sitella*

White-browed babbler  
Grey-crowned babbler  
Spotted quail-thrush  
Varied sittella

### *Whistlers and allies*

Crested shrike-tit  
Golden whistler  
Rufous whistler  
Grey shrike-thrush

## Checklist of Traprock birds

### *Flycatchers, fantails*

Leaden flycatcher  
Satin flycatcher  
Restless flycatcher  
Rufous fantail  
Grey fantail  
Willie wagtail  
Spangled drongo  
Magpie-lark

### *Trillers, cuckoo-shrikes, oriole*

White-winged triller  
Varied triller  
Black-faced cuckoo-shrike  
White-bellied cuckoo-shrike  
Ground cuckoo-shrike  
Cicadabird  
Olive-backed oriole

### *Woodswallows*

White-breasted woodswallow  
Masked woodswallow  
White-browed woodswallow  
Black-faced woodswallow  
Dusky woodswallow  
Little woodswallow

### *Butcherbirds, magpie, crows*

Grey butcherbird  
Pied butcherbird  
Australian magpie  
Pied currawong  
Australian raven  
Torresian crow

### *Mud-nesters*

White-winged chough  
Apostlebird

### *Bowerbirds*

Regent bowerbird  
Satin bowerbird  
Spotted bowerbird

### *Bushlarks, pipits*

Singing bushlark  
Richard's pipit

### *Finches*

Zebra finch  
Double-barred finch  
Black-throated finch  
Plum-headed finch  
Chestnut-breasted mannikin  
Diamond firetail  
Red-browed finch  
House sparrow  
European goldfinch

### *Mistletoebird*

### *Swallows, martins*

Welcome swallow  
Barn swallow  
Tree martin  
Fairy martin  
White-backed swallow

### *Warblers, songlarks*

Clamorous reed-warbler  
Golden-headed cisticola  
Rufous songlark  
Brown Songlark

### *Silvereye*

Common starling  
Common myna