

CAMBOOYA GRASSLAND CONSERVATION RESERVE

QUICK TIPS FOR MANAGING NATIVE GRASSLANDS

- ✓ Avoid disturbing the soil
- ✓ Allow all native plants to grow, flower and set seed every year
- ✓ Control feral animals and weeds
- ✓ Develop a sympathetic burning or grazing regime to actively manage the grassland, preventing dead or old foliage from matting, and loss of diversity
- ✓ Encourage a dense, native groundcover to minimise weed invasion
- ✓ Avoid any unnecessary soil compaction by vehicles, heavy equipment or grazing animals
- ✓ Avoid any change to the fertility of the soil by adding fertiliser or lime
- ✓ Avoid planting native or exotic trees in native grasslands
- ✓ Use native local seeds when rehabilitating areas
- ✓ Write and follow a simple, effective management plan and monitor its progress



Darling Downs
native grassland



Quail nest in
native grass tussock

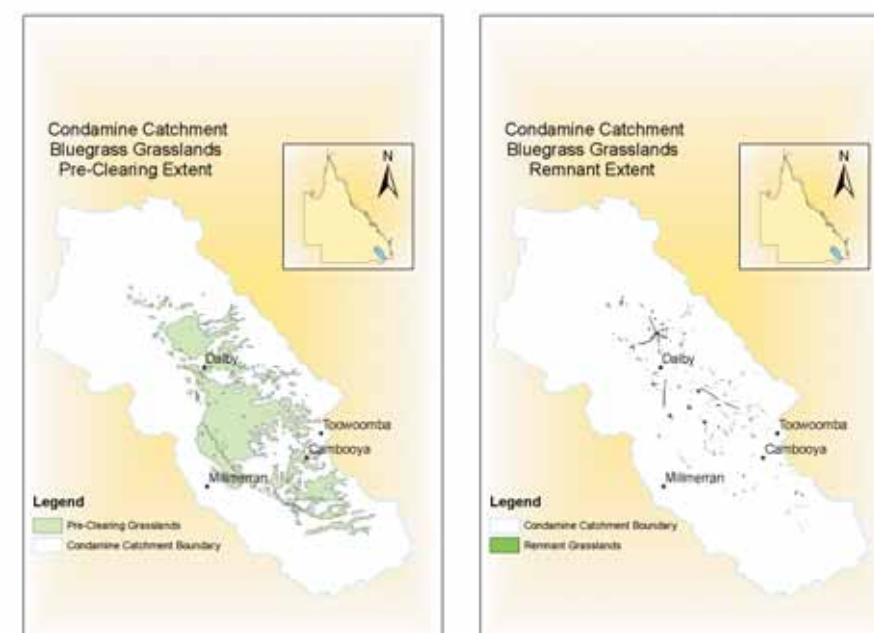
Native grasslands on the Darling Downs

Native grasslands

One hundred and fifty years ago, the Darling Downs region of Queensland was covered by more than 390,000 hectares of treeless open plains. These native grasslands occurred on the deep, cracking clay, alluvial soils of the Condamine floodplain. Queensland Bluegrass (*Dichanthium sericeum*) dominates, giving this vegetation community its name - Bluegrass grasslands.

Since European occupation, extensive farming has reduced this vegetation community to just over one percent of the original area.

This makes native grasslands one of the most endangered ecosystems in Queensland.



The Bluegrass grasslands are now listed as endangered under the Federal Environment Protection and Biodiversity Conservation Act 1999 and this legislation protects the remnants from being destroyed.

Where are the grasslands and what do they look like?

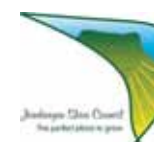
Today on the Darling Downs, these highly significant grassland remnants are confined to relatively small, isolated patches along roadsides, stock routes, council reserves and privately owned land.

At first glance, grasslands can simply look like 'paddocks' of dry, brown grass. However, they are, in fact, alive with plants and animals!

Despite their small size on the Darling Downs (generally under ten hectares), native grassland remnants support a unique collection of plants as well as a large variety of birds, frogs, mammals, reptiles and other wildlife.

Grasslands change appearance from season to season and site to site. Up to 100 plant species can occur in one grassland remnant, all responding to environmental conditions differently. The Darling Downs grasslands contain temperate species which have the ability to respond to cool, wet conditions in winter, and sub-tropical species that need the warmer temperature of summer to grow and set seed. Different management between sites will also change appearances. For example, burning opens up the grass cover, allowing more herbs to grow.

**The three and a half hectare Cambooya
Grassland Conservation Reserve on
the Darling Downs supports more
than 26 different species of wildlife.**



LOOKING AFTER THE RESERVE

This is an important reptile habitat, including snakes. If entering reserve, please wear suitable shoes and enter at your own risk.

Please do not smoke in the reserve.

Always dispose of rubbish properly.

Tell your friends and family about the importance of grasslands.

Attend field days at the Cambooya Grassland Conservation Reserve to learn more about the grassland and help control weeds.

Pick up a 'More than meets the eye' grassland management guide from the Cambooya Landcare Group.

For more information or to become involved please contact:

CAMBOOYA LANDCARE
(07) 4696 1006 (07) 4696 1543

JONDARYAN SHIRE COUNCIL
(07) 4691 1388

WORLD WIDE FUND FOR NATURE
(07) 3839 2677

CAMBOOYA FIRE BRIGADE
(07) 4630 9157

In an emergency please dial 000

THE FLORA OF CAMBOOYA GRASSLAND CONSERVATION RESERVE

A carpet of green

A large variety of plants thrive in the reserve. You will be amazed at what you find when you take a closer look. Between the grass tussocks, a number of native legumes and herbs grow.



Endemic to Australia, the Australian Cornflower was once widespread throughout the grasslands of eastern Australia. However, this grazing intolerant plant has now become extinct in New South Wales and Victoria. The Darling Downs appears to be the Australian Cornflower's stronghold, occurring mainly along roadsides and reserves.

Sadly the plant is still under threat from destruction by road construction and maintenance works, weed invasion, stock grazing and chemical use. To help protect the species the Australian Cornflower has been listed under federal and state legislation as Vulnerable.

Unfortunately sometimes mistaken for an exotic thistle, this interesting plant consists of a single large taproot, a rosette of leaves near the base of the plant which reduce in number up long flowering stems. Each erect stem has a single flower head with a base of brown bracts and a cluster of many pink



Australian Cornflower
Stemmacantha australis

flowers. Each seed has a silky cream coloured ring of hair (pappus) attached to aid wind dispersal.

Flowering predominantly through Spring to Autumn, this species can flower at other times after good rainfall. The distinctive flower stalks die off after the seeds have dispersed but remain attached for several months. The species is adapted to fire and has the ability to germinate rapidly after a burn, giving it a competitive advantage.

Reserves such as the Cambooya Grassland Conservation Reserve are vital for the long-term survival of the Australian Cornflower.



Queensland Bluegrass
Dichanthium sericeum

One of the most nutritious and palatable of the native grasses, this value fodder grass occurs in the warmer parts of Australia and is very common across the Darling Downs on clay soils.

This perennial grass can grow up to nearly a metre tall and has numerous slender erect stems with a distinguishing ring of white hairs on the stem joints (nodes). The tussocks are tufted with grey-green or blue-green leaves, mainly near the base. The seed heads consists of numerous silky finger-like branches (spikelets) from the one axis.

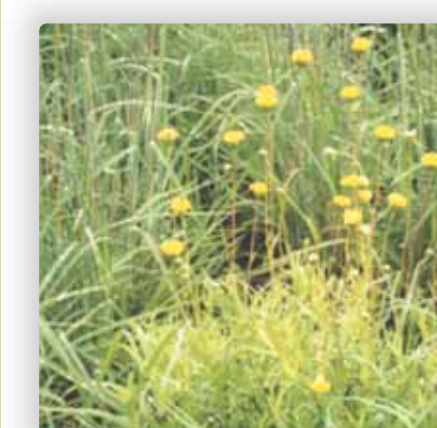
Queensland Bluegrass is regarded as an indicator of good pasture condition and is very sensitive to over-grazing.



Although it is not particularly drought tolerant, this species is unique in that partially germinated seeds become dormant in dry times and can resume growth immediately upon rainfall.

Queensland bluegrass is considered to be very resilient and highly competitive. It is also an early coloniser of abandoned cultivation on clay soils.

While the grass itself is common, the Bluegrass grassland community is endangered.



Flat Billybuttons
Leiocarpa brevicompta

This perennial herb grows up to half a metre tall, with a bright yellow flower sitting on top of a 15 cm stalk. The flower forms a distinct half circle with a reasonably flat base, and can be seen flowering from winter to spring.

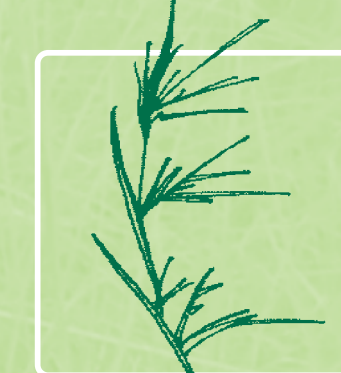
It is a common species found on heavy cracking clay soils. Following flooding, this plant can form extensive stands and is not commonly eaten by stock.



Native Oat Grass
Themeda avenacea

This grass stands out from the rest - literally! Growing up to 2 metres tall, it is distinct in grasslands. The seed head attaches to these long stalks with dense, tussocky green-blue leaves at the base.

Native Oat grass grows on a variety of soils, appearing more common in wetter areas and areas not over-grazed but regularly burnt.



CAMBOOYA GRASSLAND CONSERVATION RESERVE

Why is this reserve important?

Habitat for fauna and seed source for flora

On the Darling Downs, native grasslands are home to a diverse range of plants and animals including a number of endangered and vulnerable species. They provide shelter, food and breeding grounds for wildlife and a seed source for native plant regeneration. Grassland remnants also provide wildlife corridors, linking areas of native vegetation.

Maintaining the health of the land

Grasslands help maintain the health of the land. Soil micro-organisms thrive, which are vital for soil health, and these soils are protected from erosion, with grass tussocks slowing down and reducing run off and increasing infiltration. This leads to improved water quality and less stream sedimentation.

Under Threat

Threats to native grasslands

Despite their ecological and economic value, native grasslands on the Darling Downs remain under considerable threat from:

- Clearing for cultivation
- Disturbance or destruction through construction and maintenance along road reserves
- Degradation through overgrazing
- High frequency slashing
- Inappropriate fire regimes - burning too frequently or not at all
- Weed invasion
- Artificial or accelerated changes in soil fertility
- Inappropriate tree planting



Lippia (*Phyla canescens*) - a weed devastating to grasslands

Cambooya Grassland Conservation Reserve

History

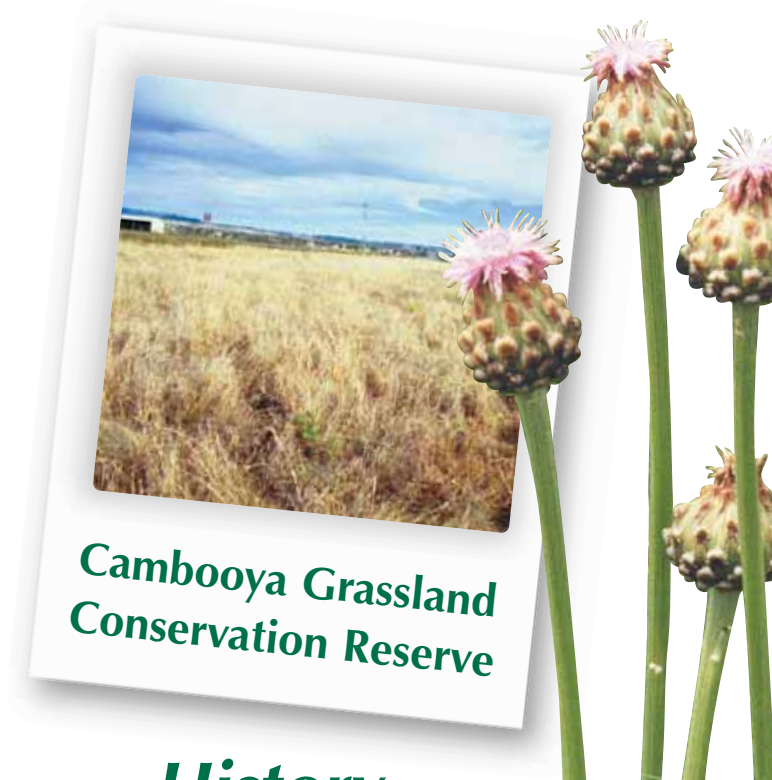
In 2000 a World Wide Fund for Nature report listed 'Lot 45 Railway Parade, Cambooya' as a significant grassland remnant suitable to become a reserve. When the parcel came up for sale in 2001 the Cambooya Landcare Association proposed that rather than selling, the Queensland Government, as owners, undertake a tenure conversion from "unallocated state land" to "reserve for environmental purposes".

Through support from Jondaryan Shire Council, WWF, Queensland Parks and Wildlife Service,

The Reserve

The Cambooya Grassland Conservation Reserve conserves a 3.5 hectare remnant of endangered grassland, a thriving population of the vulnerable Australian Cornflower and the associated animals living within.

This significant remnant is the first Shire Council grassland reserve in Queensland, illustrating community recognition and support for this special area.



MANAGEMENT OF THE RESERVE

Like all grasslands this remnant needs active management to maintain the health of the ecosystem. This includes the use of fire, which has multiple positive responses:

- It keeps the grassland open, allowing a variety of herbs and grasses to grow in the spaces between grass tussocks.
- It removes old leaf bases and encourages new growth in existing grass tussocks.
- It encourages the germination of native grasses and the threatened Australian Cornflower.
- It removes fire intolerant weed species and their seeds.

As the reserve is long and narrow there is a large perimeter compared to the area and this makes it vulnerable to invasion by weeds from the surrounding roadside and railway reserve. Weed control will be an ongoing management requirement and will include the use of fire, manual removal and spot application of herbicide where necessary.



Fencing installed with WWF funding.



The local rural fire brigade undertake burning on the reserve.



The reserve is burnt in a mosaic pattern.



Life cycle of Australian Cornflower regenerating after a burn.

FUTURE OF THE RESERVE

The Cambooya Grassland Conservation Reserve will contribute to the conservation of grassland ecosystems on the Darling Downs. It will also contribute to public open space in the future when the surrounding area becomes more developed. The site will provide research and training for University students, TAFE students, rural fire service volunteers and anyone else interested in grassland ecology or the associated flora and fauna.

THE FAUNA OF CAMBOOYA GRASSLAND CONSERVATION RESERVE

An island home

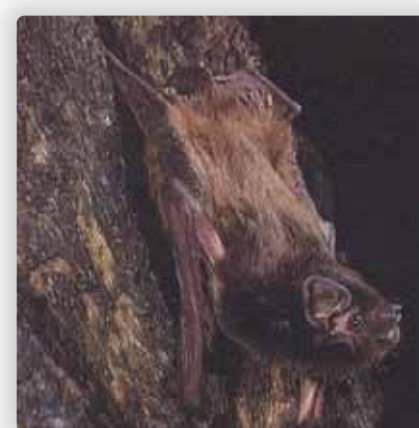
This grassland remnant acts as an island of habitat for a large variety of birds and animals. Although hard to see, animals abound between the grass tussocks.



Three-toed Skink
Saiphos equalis

The Three-toed Skink, a species traditionally associated with forests and heaths and never before recorded in grasslands, has been recorded at the Cambooya Grassland Reserve.

The Three-toed Skink is a small, short lizard with widely spaced limbs and three toes on each foot. This predominantly brown lizard has distinct markings and hidden ear openings. They are usually found under cover and lay very large eggs with advanced embryos that hatch within a week or so of being laid.



Gould's Wattled Bat
Chalinolobus gouldii

Found throughout Australia, the Gould's Wattled Bat forages in open woodlands and grasslands at sunset for moths and other insects, travelling up to 10 kilometres from their roost site. Their flight speed is fast and usually on a fixed horizontal plane under 20 metres above the ground, with sudden zig-zag changes.

The bat has a short nose and its ears are short and broad. The back edge of the ear extends to form a large lobe of skin (or wattle) at the corner of the mouth and a secondary long narrow lobe is present along the lower lip. The fur is brown on the bat's back and belly with dark blackish fur on the head and shoulders.

Its echo-locating pulses are normally inaudible to humans, however this species is able to produce a loud, audible component to this call when alarmed. They are preyed upon by owls and feral cats, Pied Butcherbirds, Pied Currawongs and Brown Falcons.



Pale Field-rat
Rattus tunneyi

Once widespread over most of the mainland, this native rat is now limited to the northern coastal areas of Australia. The Pale Field-rat is found throughout the Darling Downs grasslands, especially in areas of dense ground cover. The species is nocturnal, spending its days in shallow burrows dug in the crumbling clay soils common to the Darling Downs. The Pale Field-rat lives on grass stems, seeds and roots and their network of runways are noticeable in the grass.

The Pale Field-rat is recognizable by its large 'bulging' eyes. They are yellow-brown in colour, with their tail shorter than their head and body.

The Pale Field-rat appears to be sensitive to grazing as it is not found in heavily grazed areas, but only in ungrazed or very irregularly grazed areas.



Common Dunnart
Sminthopsis murina

The Common Dunnart appears to be adapted to periodic burning of its habitat. This is highlighted by their prevalence in the Cambooya Grassland Reserve, which is burnt on a semi-regular basis.

The Common Dunnart belongs to the carnivorous marsupial family. This nocturnal species rests during the day in cup-shaped nests of dried grass and leaves and feeds on beetles, cockroaches, crickets and spiders.

Grey in colour, the Common Dunnart is white underneath, with a slender, pointed nose and large ears and eyes.



Black-shouldered Kite
Elanus axillaries

The Black-shouldered Kite is a pale grey hawk with a white head and a black shoulder patch. They are all white underneath except for a small black patch at each "wrist joint and dark wingtips".

They inhabit native grasslands and farmland stubble, soaring on strongly upcurved wings, hovering frequently, searching for mice, small lizards and ground birds.



Brown Quail
Coturnix ypsilophora

A large quail, the Brown Quail is brownish in colour with fine white streaks. They can travel singly, in pairs or in groups of 10 - 30 and flight is low, fast and usually brief. When disturbed, they dart along the ground erratically or burst upwards, flushing explosively in all directions.

Grasslands are important habitat for the Brown Quail, although they live in a variety of habitats.

Golden-headed Cisticola *Cisticola exilis*

Also known as the 'Tailor bird' due to the stitched-leaf nest it makes, the Golden-headed Cisticola uses fine grass, leaves, spider's webs and cocoons woven together and into the plant the nest resides in. It is assumed that the inclusion of living leaves in the external surface is a form of camouflage.

This bird is very vocal. Breeding males attract attention with song flights and by calls from tall grass stems and fences, then drops suddenly to cover.

The Golden-headed Cisticola's habitat is usually wet areas, lowland swamps, wet grass, irrigated pastures.



OTHER ANIMALS FOUND IN THE RESERVE:

- Spotted Harrier
- Galah
- Red-chested Button-Quail
- Pied Butcherbird
- Torresian Crow
- Red-naped Snake
- Black Falcon
- Nankeen Kestrel
- Cockatiel
- Magpie-lark
- Scarlet Jezabel butterfly
- Red-bellied Black Snake