

Brigalow forest

A NATIONALLY ENDANGERED ECOLOGICAL COMMUNITY IN SOUTH EAST QUEENSLAND



Healthy Land & Water has been working with landholders, community groups and governments to protect and restore nationally threatened ecological communities found in South East Queensland.

Brigalow forest is nationally threatened and protected under the *Environment Protection and Biodiversity Conservation Act 1999*, Australia's national environment law.

Plants



Brigalow

Acacia harpophylla

Often found on clay soils, this silvery wattle with sickle-shaped leaves can grow up to 25 m.



Belah

Casuarina cristata

This she-oak tree has fine foliage and rough grey bark. Leaves are tiny pointed scales on green branchlets, and seeds are a favoured food of the Glossy Black-cockatoo.



Brush Hovea

Hovea longipes

A shrub or small tree that grows up to 5 m. From winter to spring it blooms spectacularly with small purple flowers.



Scrub Wedding Bush

Ricinocarpos ledifolius

This locally endemic shrub grows to 4 m. Its leaves have hairy undersides and it produces small white flowers in winter and spring.



Grey Mistletoe

Amyema quandang

This mistletoe is hemi-parasitic, often obtaining nourishment from a Brigalow host. It has greyish leaves, brightly coloured flowers and egg-shaped fruit.



King Orchid

Dendrobium speciosum

Renowned for its spectacular fragrant cream to yellow flowers, this orchid grows as a lithophyte (on rocks) and an epiphyte (on other plants). Over 100 flowers can be found on each stem during late winter and spring.



Stout Bamboo Grass

Austrostipa ramosissima

This tall, tufted grass grows to 2.5 m in cane-like clumps. Its creamy flowers are present throughout the year.



Hooky Grass

Ancistrachne uncinulata

This clumping perennial grass grows to 2 m. It has highly-branched, wiry stems and hooked hairs on its seed bracts.



Burney Vine

Trophis scandens

A large climbing vine with rough, dark-brown stems, dark leaves, greenish/cream flowers and red fruit. Aboriginals made a strong string from the inner bark.

Animals

Yellow Thornbill

Acanthiza nana

These small yellow birds build domed nests in treetops from grasses and bark, lined with feathers, fur or soft plant down.



Little Pied Bat

Chalinolobus picatus

This small bat travels up to 30 km each night in search of insects. By day, groups roost inside shallow caves, rock-shelters, disused human structures, and natural tree hollows.

Glossy Black-cockatoo

Calyptorhynchus lathami

Birds are generally brownish-black with a large bill. Males have red barring on their tails; females and juveniles have red and yellow barred tails. These birds return to the same she-oak trees for food every year.



Grey-crowned Babbler

Pomatostomus temporalis

These very social family birds have a distinctive grey crown stripe and dark face mask that sits underneath a white eyebrow. Babblers are disappearing in parts of SEQ due to loss of woodland habitat.

Collared Delma

Delma torquata

Often confused for a snake, this is Australia's smallest legless lizard. It is steely grey to brown with a black head marked with yellow stripes.



Black-breasted Button-quail

Turnix melanogaster

A large, plump, pale-eyed quail with marbled black, brown and white plumage. These vulnerable birds are reluctant flyers so a healthy forest understorey is vital to protect its movement.



Common Death Adder

Acanthophis antarcticus

Despite its name, this is not a common snake. Highly venomous and hard to see, Death Adders have short stocky bodies, an arrow-shaped head and thin tail which is wriggled to attract prey.

This forest is an example of an 'ecological community'. An ecological community is a group of plants and animals that interact with each other in a given location.

Brigalow (*Acacia harpophylla*) is a long-lived and slow-growing silvery wattle tree that typifies a nationally endangered forest known as Brigalow forest.



Know your forest

Brigalow forest extends in a broad band, known as the Brigalow Belt, from Townsville, Queensland, to Dubbo, New South Wales. Whilst generally found in western areas of Queensland, the eastern extent of Brigalow forest occurs in South East Queensland (SEQ) on a range of soil types.

In SEQ, Brigalow forest can be found generally as an open forest, often as Brigalow mixed with smaller populations of Belah or Brigalow mixed with semi-evergreen vine thickets in gullies and along south-facing slopes. The usually sparse groundcover is made up of scattered shrubs, forbs and grasses.

Why it's so special

The whole forest community is listed as nationally endangered, but many individual plant and animal species are also threatened at national and/or state levels in Queensland and New South Wales.

Home to threatened animals

Brigalow forest provides habitat for many wildlife species, particularly around areas of vine scrub. The range of creatures found in this forest is significantly reduced in smaller, isolated remnant patches.

The enigmatic Glossy Black-cockatoo, whose diet is restricted to she-oaks, can be found here, as can the hard-to-find Black-breasted Button-quail and Collared Delma.

What you can do

Landholders play an important role in helping manage remaining patches of Brigalow forest found on their property.

Support services such as local community groups, local Council, the Land for Wildlife program or our friendly Healthy Land and Water on-ground staff, can be an important first point of call to help landowners identify whether this endangered forest community is found on their property, and if any funding is available to assist them in the management of this forest. Don't worry if you've never been involved in these types of activities before or have no prior knowledge of Brigalow forest. Very often assistance is available to help guide landholders through the whole process, whilst also accommodating the property's existing land uses.

Why it's under threat

Once deemed as unproductive land and actively cleared, Brigalow forest is increasingly being recognised for its high ecological values and biodiversity.

Unfortunately, less than 10% of the original forest now remains, both nationally and within the SEQ area. These small remaining areas are those that could not be cleared due to difficult terrain and rocky ground, so although important for a number of species, even these remnant patches are not truly representative of the diversity that once existed. Due to their size, these fragmented areas are vulnerable to threats from weeds, pest animals, stock and fire.

With much of the forest now occurring on private land, a landscape-scale management approach is needed to reconnect isolated patches, restore species diversity and reduce the impact of the threats discussed below.

Weeds

Weeds are plants growing where they are not wanted. They compete with locally native plants for space, water and nutrients. Certain grass weeds can drastically change habitat structure for ground-dwelling fauna and increase fuel loads for bushfires, with disastrous consequences.

Disturbances to soil, or natural events such as floods, drought and fire can weaken the ecosystem's immunity against weed invasion, leading to an increase in the following:

- Canopy-killers: these vines can smother and kill mature trees. Examples include Cats Claw Creeper, Asparagus Fern and Madeira Vine.
- Shrub layer: these shrubs outcompete native plants and degrade wildlife habitat. Examples include African Box Thorn, Lantana and Prickly Pear.
- Ground level: rapidly spreading Parthenium and Mother-of-millions smother native plants and harm stock. Introduced pasture grasses such as Green Panic can increase fuel loads, making the forest more vulnerable to fire.

The origin of the name 'Brigalow' is from an Aboriginal word, thought to be 'Burigal' in the Kamilaroi language, which refers to various species of wattle. The name was adopted by white settlers who pushed north and inland from the Hunter Valley in the 1830s and 1840s.



Current and historical extent of Brigalow forest in South East Queensland

Mapped areas are potential locations of Brigalow forest communities based on the best available regional information. The areas are overestimates of this forest's extent, and may include other related ecosystems. Further verification is required.

Threats



Tackling weeds

The way in which weed control is approached depends on the species involved. Methods can be physical (e.g. hand-pulling), mechanical, chemical or, in some cases, biological. The key is prevention, early detection and eradication. Long-term management to keep weeds from re-emerging is crucial. If weeds are managed effectively, local native species can begin to regenerate and eventually outcompete weeds species. Local native species can also be planted in areas cleared of weeds.

Fire

Fires, particularly hot or frequent fires, degrade and may kill Brigalow forest. Whilst many native tree and shrub species in Brigalow forest can re-sprout or sucker following fire, other species do not survive, and unlike other acacias, Brigalow does not need fire for seed germination. Frequent fire also increases likelihood of invasion by exotic grasses and Parthenium, which in turn builds fuel loads.

Managing fire

Firebreaks and carefully managed planned burns should be used to reduce the threat of fire in Brigalow forest. Reducing fuel loads in surrounding areas through managed grazing or planned burnings are important considerations in property management.

Livestock

Livestock overgrazing and trampling of Brigalow flora can reduce the amount of leaf litter and debris, scatter species more sparsely and inhibit seedling regeneration.

Managing livestock

Good fencing is an important part of livestock management. Rotation of stock between paddocks, prevention of overgrazing and trampling, and promotion of good groundcover and shrubby understorey

and younger plants will all help in the management and rehabilitation of Brigalow forest.

Pest animal issues

Pest animals include Feral Pigs, Cane Toads, Cats and Foxes. These creatures impact directly on the native vegetation and wildlife through predation, disease and soil disturbance.

Managing pest animals

Pest animal issues require an integrated management approach. Contact the Invasive Animals Cooperative Research Centre (CRC) or your local Council for the latest information and support available.

Clearing, disturbance and modification

In SEQ, Brigalow forest now occurs only in a fragmented state in the Cooyar Creek catchment, Lockyer Valley, Rosewood district and Fassifern Valley on private land, and within one protected area at Gatton National Park.

Restoring remaining patches

Every small increase in vegetation cover can welcome species back into the area. Fallen timber, standing dead trees, thick leaf litter and shrubs are signs of good, complex habitat. 'Buffer zones' can also be developed as vital pathways between patches, allowing species to move more easily between isolated forested areas.

The promotion of regrowth areas offers a cost-effective and less labour-intensive option than planting trees, and Brigalow forest has shown good capacity for regrowth from root stock. The composition of regrowth vegetation often differs from its original remnant counterparts, but nevertheless provides important shelter, nesting and pathways for various species.

Find out more

HealthyLand&Water

If you are interested in finding out more about how to identify or manage Brigalow forest on your property, our team can provide support and advice, as well as information on regional funding.

Ph: 07 3177 9100 E: info@hlw.org.au
www.hlw.org.au

LandforWildlife

If you are interested in signing up your property to this free, voluntary conservation program, then get in touch with your local coordinator or visit www.lfwseq.org.au

YourlocalcatchmentorLandcaregroup

www.landcareaustralia.com.au

Australian Government

www.environment.gov.au

- Brigalow Belt Forests in Queensland, 2011
- Brigalow (*Acacia harpophylla* dominant and co-dominant) SPRAT (Species Profiles and Threats) profile, 2013
- Conserving Biodiversity in Brigalow Landscapes

South East Queensland Ecological Restoration Framework, 2012

www.hlw.org.au

Species list for regional ecosystem 12.9-10.6, *Acacia harpophylla* open forest

Lockyer Valley Regional Council and Healthy Land & Water.

www.hlw.org.au

Weeds of Southern Queensland, 3rd edition,

Weed Society of Queensland

InvasiveAnimals CRC

<http://www.invasiveanimals.com> or www.feral.org.au

Credits

Creative consulting including design, editing and illustration by Ecocreative®

IMG, 2003 Brigalow by Margaret Donald;

Casuarina cristata by Peter Woodward;

 Grass by John Tann; other photos by John

 Bennett, Lyndal Ison, Peter Guest and Del

Meters.

The Australian Government invested in the protection of ecological communities such as Brigalow forest, through its Caring for our Country program. As a result of this funding, Healthy Land & Water was able to work with landholders across South East Queensland to restore and reconnect more than 264 hectares of this forest from 2009 to 2012. This was a successful program and much more could be done with more funding to continue this work.