THREATENED SPECIES AND COMMUNITIES

Australian Government
Department of the Environment and Heritage

FACT SHEET

Threatened Australian plants

Plants form the basis of our environment. They release oxygen into the atmosphere and use sunlight, carbon dioxide and minerals to produce food. People and the rest of the living world depend upon this oxygen and food to survive. Plants also provide shelter and breeding sites for animals, and they protect the soil from wind and water erosion. For humans, plants are the source of many valuable products such as building materials, paper and clothing.

Wee Jasper Grevillea
Grevillea iaspicula
(endangered)
Illustration by Diana Boyer

Why are plants threatened?

In over 200 years of European occupation there have been significant changes to the way native vegetation is managed. Clearing for agriculture and urban development, altered fire and grazing patterns, changed drought and flood patterns, and the introduction of weeds, feral animals and diseases have affected the survival of many plant species.

More than 60 Australian plant species are now thought to be extinct, and over 1180 are threatened.

The depletion and degradation of native vegetation communities threatens the long-term health of Australian landscapes.

Increasing fragmentation makes it harder for plants to reproduce and makes populations more susceptible to disturbance. Changes to drought and flood patterns have threatened the survival of many plant species.

Fire is a natural event in the Australian environment. However, changes to the frequency and intensity of fires, and to the seasons in which they occur, affect the abundance of plants and the composition of plant communities.

Tumut Grevillea
Grevillea wilkinsonii
(endangered)
Illustration by Faye Davies

Hard-hoofed animals, such as cattle, horses and sheep, trample native vegetation and compact the soil, which prevents seedling growth and encourages soil erosion. Many native plants cannot survive intense grazing by these introduced animals.

Invasive species have had devastating effects on our native plants. Weeds compete with native plants for space and resources, or stop them recovering after clearing, fire or other disturbances. Many pest animals, such as feral pigs and goats, cause soil erosion and trample native vegetation. Phytophthora, a deadly fungus, also threatens the survival of many Australian plant species. Fertilisers, pesticides and pollution of our rivers and lakes further threaten our ecosystems.

What can we do to protect our plants?

With increased knowledge, sound planning and cooperation between government, industry and the community we can work towards protecting native

Bindoon starbush
Asterolasia nivea
(vulnerable)
Illustration by Terry Woollcott

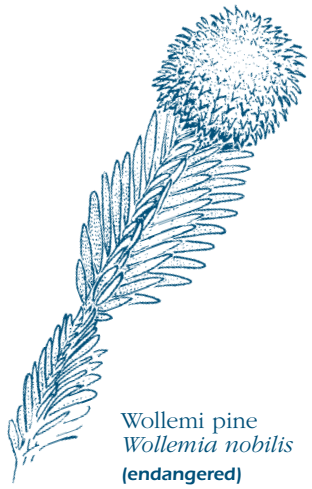
vegetation. A few of the actions taken on the ground include management of grazing pressure, control of weeds, pests and disease, establishing wildlife corridors, fencing waterways and replanting native vegetation on public and private land.

The Australian Government promotes the conservation and recovery of threatened Australian plants through the *Environment Protection and Biodiversity Conservation Act 1999*. There are six different categories of threatened species under the Act: extinct, extinct in the wild, critically endangered, endangered, vulnerable and conservation dependent. In Australia, over 1180 plants are listed as threatened under the Act.

How you can help

Here are some of the ways you can help protect our threatened plants:

- join a local conservation, 'friends' or Bushcare group
- help spread the word about the importance of conserving native plants
- learn which garden plants are serious weeds — if you visit your local nursery, ask for a list of garden 'thugs' and alternative species, and make sure no bush invaders are planted in the garden
- make sure that garden waste is properly covered on the trip out to the tip — otherwise weeds might escape from the back of the trailer.



Wollemi pine
Wollemia nobilis
(endangered)
Illustration by Sharyn Wragg

Wollemi pine

Scientific name

Wollemia nobilis

Conservation status

Endangered

The Wollemi pine is a majestic tree of up to 40 metres, with an unusual bubbly bark. It was discovered by accident in the Wollemi National Park in 1994. The pine's juvenile leaves are lime green and grow under the forest canopy, while the adult leaves are tougher and grow above the canopy. The male and female cones appear at the ends of branches with adult leaves.

Habitat and distribution

The Wollemi pine is known from two sites in the Wollemi National Park in New South Wales. Only 40 adult plants and about 200 seedlings have been found in this rugged wilderness area. The Wollemi pine grows in the deep canyons in a warm temperate rainforest, while the surrounding ridges and canyon walls are covered by a dry sclerophyll woodland.

Threats

Human activity is the greatest threat to the populations of Wollemi pine. When visiting the sites, people can easily introduce diseases or weeds, trample seedlings or accidentally cause fires.

Recovery action

To protect the species from extinction, its true location has been kept secret and scientific visits are kept to a minimum. Authorised visitors are required to clean their shoes in special footbaths to prevent the introduction of fungi such as phytophthora root rot, which could kill all remaining pine trees and seedlings. A cultivation and propagation program has been established.

Davies' waxflower

Scientific name

Phebalium daviesii

Conservation status

Critically endangered

Davies' waxflower is a shrub or small tree that grows to five metres and has

Davies' waxflower *Phebalium daviesii*
(critically endangered)
Illustration by Sharyn Wragg

fine leaves one to two centimetres long. In spring and summer it produces small, cream-coloured flowers that grow in clusters.

Habitat and distribution

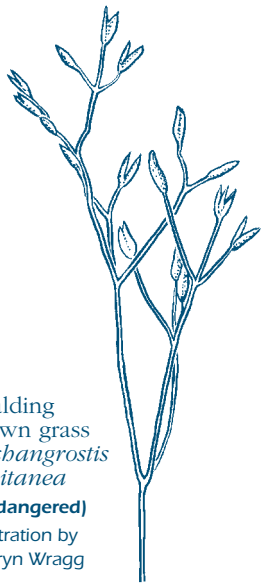
Davies' waxflower is endemic to Tasmania — that is, it is found nowhere else in the world. It is known from only three sites along the George River near St Helens, on Tasmania's east coast. The species was thought to be extinct until it was rediscovered in 1990. It grows in the flood zone close to the river in eucalyptus woodland.

Threats

Because of the low number of individuals, this species is extremely vulnerable to extinction. Most specimens of Davies' waxflower are on private land, next to pasture. Cattle cause problems of trampling, high nutrient levels and compacted soil. The species is also susceptible to root rot fungi, and any activities that involve movement of soil will increase the risk of infection.

Recovery action

As part of the conservation strategy and to promote community awareness, the Davies' waxflower has been planted in St Helens and even in private gardens. To protect the species, some of the areas where it is found have been fenced. One of the properties with the species even has a conservation covenant in place — an agreement between the landowner and the state government that permanently protects the nature conservation values of the property.



Spalding blown grass *Lachangrostis limitanea*
(endangered)
Illustration by Sharyn Wragg

Spalding blown grass

Scientific name:

Lachnagrostis (previously *Agrostis) limitanea*

Conservation status:

Endangered

Spalding blown grass is a short-lived perennial grass 30–45 centimetres tall. Its stems and leaves grow erect and the leaf blades have inrolled edges that are slightly rough to the touch. The grass flowers in spring or autumn, when conditions are favourable. The species is endangered because it has a limited population size and grows only in a small area in a rare habitat site.

Habitat and distribution

Spalding blown grass is endemic to the northern Lofty Ranges region of South Australia. Only two populations are known. It grows in grassy wetland on a clay loam soil, together with low-growing, soft-stemmed native species and common reeds.

Threats

Threats to the plant include weed invasion, grazing and — for a few plants growing on a rail reserve — railway maintenance activities.

Recovery action

Fencing of the two population sites will help to protect the species from grazing. Regular removal of exotic weed species has already resulted in an increase in the population.

Tuggeranong lignum *Muehlenbeckia tuggeranong*
(endangered)
Illustration by John Pratt, after Frank Stadler

Tuggeranong lignum

Scientific name

Muehlenbeckia tuggeranong

Conservation status

Endangered

The Tuggeranong lignum is a sprawling shrub that can grow up to one metre high and two metres wide. It has wiry stems and variable leaves up to 15 millimetres long. The shrub has cream to green flowers, with male and female flowers occurring on different plants.

Habitat and distribution

The Tuggeranong lignum was discovered in the Australian Capital Territory in 1997 and there is only one known population. The shrub grows on the flood terraces of the Murrumbidgee River in areas of rocky outcrops in silty, sandy soil.

The remaining plants are found in a highly disturbed shrubby woodland that is heavily invaded by weeds.

Threats

Land management activities and the deliberate or unintended actions of visitors are almost certainly the biggest threats to this population. Natural population growth through seeding is not very likely because the plants produce only a few seeds and pollen must be transferred from male to female plants rather than between flowers on a single plant.

Recovery action

To discourage visits to the sites where Tuggeranong lignum occurs, no tracks will be developed in the area. Propagation from cuttings has already been successful and could form the basis for the conservation of this species.

Basalt greenhood

Scientific name

Oligochaetochilus basalticus (previously *Pterostylis basaltica*)

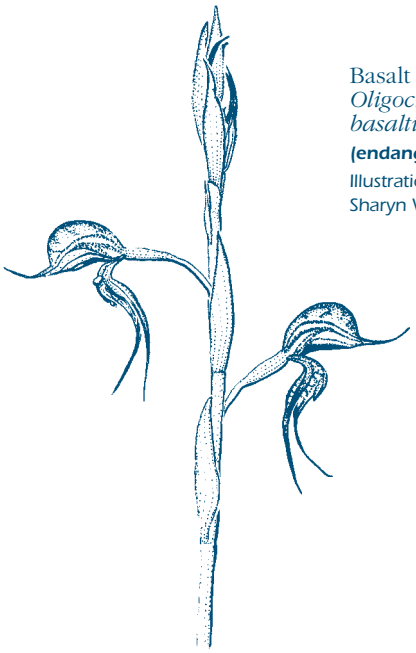
Conservation status

Endangered

The basalt greenhood orchid grows 9–25 centimetres tall. It has a rosette of oval-shaped leaves that usually wither by the time of flowering. Each plant has 1–15 flowers that are translucent (almost see-through) white with green and brown stripes. The orchid is dormant in summer.

Habitat and distribution

The basalt greenhood is endemic to grasslands in south-western Victoria. It is known from only two populations and grows in shallow soil on basalt rocks with tussock grasses, or in shrublands and low open woodland with acacia species. Within these areas, the orchid often grows in areas with pockets of bare soils, mosses and occasionally small ferns.



Basalt greenhood
Oligochaetochilus basalticus
(endangered)
Illustration by
Sharyn Wragg

Threats

One of the biggest threats to the survival of the basalt greenhood is weed invasion. Other threats include roadworks, agricultural activities such as the application of fertilisers, sowing of introduced pastures, and heavy grazing by stock and rabbits.

Recovery action

Protection of this orchid requires restriction of access, minimal disturbance, and weed control. Cultivating the species and investigating how plants can be established at new sites may help increase the numbers of this species, so that more populations can be established.

Orange-flowered wattle

Scientific name

Acacia auratiflora

Conservation status

Endangered

The orange-flowered wattle is a spreading shrub from 30 centimetres to one metre tall, with leaves 2–4 centimetres long. Its branchlets have a light covering of golden or white hairs. The flower heads are very large golden balls.

Button Wrinklewort
Rutidosis leptorrhynchoides
(endangered)
Illustration by
Terry Wollcott

Rose Mallee
Eucalyptus rhodantha
(endangered)
Illustration by
Barbara Cameron-Smith

Habitat and distribution

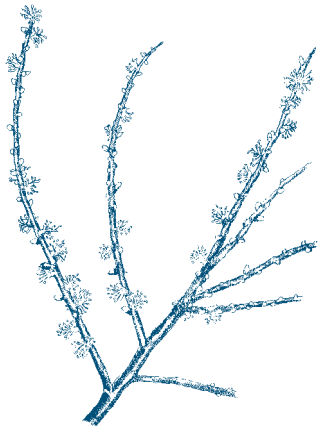
The orange-flowered wattle is found only in an area of less than 15 square kilometres in the Lake Grace–Newdegate area of Western Australia. It is known from four populations totalling about 130 plants. Plants are found in depressions on a plain, growing in sandy clay, amongst mallee scrub or eucalyptus woodland with grasses. Many of the plants are on disturbed road and rail reserves.

Threats

The main threats to the orange-flowered wattle are road and rail maintenance, salinity, grazing, weed competition and inappropriate fire patterns.

Recovery action

Increased awareness of the wattle's location by local land managers, governments and road and transport authorities is important, so that they can avoid conducting operations in these areas. A weed control program, restocking of existing populations and translocating plants to a more secure site will also help to preserve this species.



Ptychosperma bleeseri
(endangered)
Illustration by
Barbara Cameron-Smith

Boronia quadrilata

Conservation status

Vulnerable

Boronia quadrilata is an erect, slender shrub up to 1.5 metres tall. It has oval-shaped leaves with pointed tips.

Habitat and distribution

Boronia quadrilata is known only from a single locality on the Arnhem Land plateau in the Northern Territory. It is found in open shrubland on a rocky sandstone slope.

Threats

Fire is the most likely threat to this species, as there are only a few individual plants.

Recovery action

Further research into the status and extent of the population needs to be done to develop appropriate management plans. Collection of propagation material for removal to botanic gardens may protect the species from destruction by a one-off fire event.

Alectryon ramiflorus

Conservation status

Endangered

Alectryon ramiflorus is a tree growing to 16 metres. The individual flowers are pale green, small and do not have petals. They grow in clusters on the older branches of the tree.

Habitat and distribution

Alectryon ramiflorus is a dry rainforest species known from four populations in the Childers area in Queensland. It occurs in the Isis Scrub community that was once extensive in the area but now is very fragmented and surrounded by agricultural land.

Threats

The remnant native bushland is threatened by continued habitat loss and fragmentation, introduced pest animals and plants, periodic fire, drought, wind damage and insect predation.

Recovery action

The sites have been fenced to exclude cattle and there is a fire and weed management plan in place. The species has been successfully propagated and has been established at regional botanic gardens and in a few private gardens.

Definitions of conservation status terms

The *Environment Protection and Biodiversity Conservation Act 1999* is the main Commonwealth legislation for protecting the environment and conserving biodiversity. The Act defines six conservation status terms:

Extinct — there is no reasonable doubt that the last member of the species has died.

Extinct in the wild — the species is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range.

Critically endangered — the species is facing an extremely high risk of extinction in the wild in the immediate future.

Endangered — the species is not critically endangered but it is facing a very high risk of extinction in the wild in the near future.

Vulnerable — the species is not critically endangered or endangered but it is facing a high risk of extinction in the wild in the medium-term future.

Conservation dependent — the species is the focus of a specific conservation program without which the species would become vulnerable, endangered or critically endangered within five years.

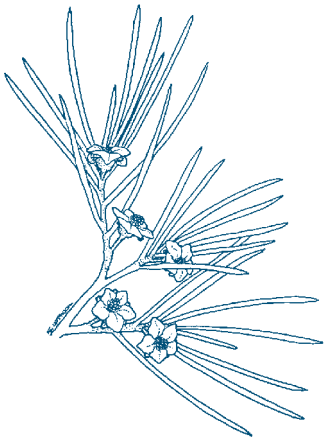
Swainsona recta
(endangered)
Illustration by
Diana Boyer

Bayonet Spider Orchid
Calendenia gladiolata
(endangered)
Illustration by
Barbara Cameron-Smith

Further reading

Briggs J and Leigh J (1996). *Rare or Threatened Australian Plants*. CSIRO Publications, Melbourne.

Cropper S (1993). *Management of Endangered Plants*. CSIRO Publications, Melbourne.



Ricinocarpos gloria-medii
(vulnerable)
Illustration by
Terry Woollcott

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Natural Heritage Trust
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