

Flora & Fauna Guarantee Action Statement

#25

This Action Statement was first published in 1992 and remains current. This version has been prepared for web publication. It retains the original text of the action statement, although contact information, the distribution map and the illustration may have been updated.

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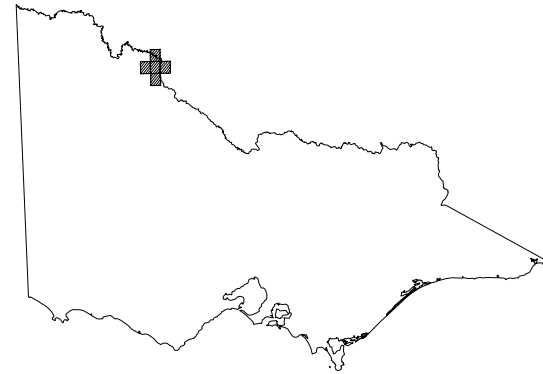
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Wilga *Geijera parviflora*



Wilga (*Geijera parviflora*)
(Illustration by Anita Barley)



Distribution in Victoria (DSE 2002)

Description and Distribution

Wilga (*Geijera parviflora* Lindley), also known as Sheepbush and Dogwood, is a tree that grows to 8 m with a dense canopy almost as wide as it is high. Branches and leaves are pendulous and often reach the ground when unbrowsed. The long narrow leaves are dark green, have a prominent mid-rib on the back and are strongly aromatic, the back being pitted with black oil glands. Small white flowers are borne in terminal panicles from late winter to the end of spring and have a fetid smell which attracts blowflies and bees. Fruits are globular, about 4-5 mm in diameter and green, turning dark with age. Each fruit contains a single large black shiny seed. The bark is dark and rough on most of the trunk but becomes paler and smoother higher on the trunk and on the branches. Wilga is widespread in western New South Wales and also occurs in north-eastern South Australia and in Queensland. In Victoria, Wilga is restricted to a road

reserve and four freehold properties between Piambie and Kenley in the Victorian Mallee although there is anecdotal evidence, as yet unconfirmed, for the presence of a single tree existing at Lindsay Point in the far north-west of the state. Wilga is usually found on red soils and sandy loams in woodland communities, often in association with Belah (*Casuarina critata*) and Cattle Bush (*Alectryon oleifolius*). More detailed descriptive and distributional information can be obtained from Cunningham *et al.* (1981) and Jessop & Toelken (1986).

Conservation Status

Current Status

LCC (1987)	Endangered
Gullan <i>et al.</i> (1990)	Endangered

Wilga has been listed as a threatened taxon on Schedule 2 of the *Flora and Fauna Guarantee Act 1988*.

Reasons for Conservation Status

In Victoria, the species is rare in terms of abundance and distribution as the only known population consists of about 200 individuals restricted to an area about 6 km long and less than 3 km wide. Apart from these trees, all surrounding vegetation has been cleared. No natural seedling recruitment has occurred for over a decade and it is possible that seedling establishment has occurred only twice in the last hundred years (B. Curtis, pers. comm).

A small number of Wilgas have been propagated and planted into Crown Allotment 31 within the current range of the population by a previous landholder.

Under the present land management regimes, there is very little opportunity for regeneration to occur. There are five trees within grazing enclosure plots on the roadside, but all trees on private land are subject to grazing by stock, rabbits and possibly kangaroos.

In its final recommendations, the Scientific Advisory Committee (SAC) has determined that the Wilga is:

- in a demonstrable state of decline which is likely to result in extinction;
- the reproduction or recruitment of the taxon has seriously declined or is not occurring;
- the taxon is significantly prone to future threats which are likely to result in extinction; and
- the taxon is very rare in terms of abundance or distribution.

Major Conservation Objectives

The major conservation objectives are to:

1. conserve as many existing trees as possible; and
2. conserve the genetic stock of the population *in situ*.

This should be achieved by:

- protecting existing trees from damage such as browsing and wood cutting;
- protecting existing trees from untimely death, for instance from clearing;
- encouraging regeneration of successive generations; and
- expanding the population by an additional hundred plants within the next three years by encouraging *in situ* seedling regeneration.

Management Issues

Ecological Issues Specific to the Taxon

This population represents the most southerly point of the species' range. Therefore it is conceivable that it contains genetic stock important to the long-term survival of the

species. Genotypic variation may reflect adaptations to extremes of environmental conditions which may prove important for the species' survival under future environmental extremes or climatic change.

As the population is small and restricted, and individual trees are exposed, the population is threatened by single catastrophic events. While the surrounding cleared land protects the population from fire, potential threats from exposure to disease, severe insect attack or unusual atmospheric conditions remain a problem.

Wilga is nutritious and palatable to sheep and cattle (Cunningham *et al.* 1981, Costermans 1983) as evidenced by browse lines on unfenced trees, but browsing by mammals poses no apparent threat to the trees currently standing, as they are large.

Little or no seedling recruitment has occurred for many years and while this is almost certainly due to browsing, the hydrological regime may also be implicated. Regeneration occurred in 1955 and 1973-74, years which were associated with unusually wet summers coupled with follow-up rains. (B. Curtis, pers. comm., Bureau of Meteorology data). Other factors may also be necessary for successful seedling establishment, but so far few ecological requirements of the species in Victoria are known. Seeds of other members of the Rutaceae respond to cracking of the testa or exposure to ash leachate (Langkamp 1987).

Fire regime, ground water condition, stratification, nutrition and pH are all factors that may be involved in seedling establishment and may have been removed or altered due to settlement in the area.

Stock grazing appears to prevent seedling regeneration and may also lead to other problems of soil compaction and altered soil nutrient levels.

Cultivation may alter soil nutrition and moisture levels, which could affect the remaining trees and their prospects for regeneration.

Wider Conservation Implications

Conserving the population of Wilga will not only maintain this species in Victoria, but will provide a refuge of genetic material for the species as a whole. It provides an opportunity to develop and refine techniques relevant to the conservation of woody species at risk.

Social and Economic Issues

While appropriate management of private land and roadsides is critical to the future of Wilga, a cooperative approach will ensure that negative social or economic impacts are small. The Shire of Swan Hill is willing to cooperate in any venture to enhance the conservation of the trees on the roadside. The Shire Engineer has indicated that should any road works be necessary, then these would 'approximate the existing gravel roadway' and not affect the trees.

Land-use practices have to change if Wilga is to be conserved. The species is only found on a relatively small area of agricultural land; nevertheless, this area may be important for production to three landowners.

Two owners with Wilga on their properties are in sympathy with its conservation. The attitude of the third owner, who

lives away from the district, is unknown. The two owners are prepared to fence out some areas. This will reduce the area available for grazing, but will increase stock shelter as the trees will soon produce dense foliage to ground level. However, as stock will not have access beneath the canopies, shelter from sun and rain will be decreased in the short term.

While clustered trees can be easily fenced out without greatly affecting production, this is more difficult where individual trees are widely scattered. Cultivation is one potential land use that potentially threatens Wilga. Specifically, there have been proposals to cultivate potatoes. Cultivation could require the removal of some trees and, through altered soil nutrition and moisture levels, affect the others. Further discussions with the owners are necessary to determine if cultivation is likely and, if so, what options are available to ensure the trees are protected while allowing the owners to achieve other goals such as maximising farm income.

Management Action

Previous Management Action

Discussions have been held with the Shire of Swan Hill and two of the landholders, all of whom have indicated support for protecting Wilga trees. The third owner has been contacted.

Five trees on the Piambie-Kenley Road were fenced from mammalian browsers in 1990 by the Department of Conservation & Environment. Two enclosures protect two trees each and another protects a fifth tree. The most healthy and vigorous trees were chosen for protection and each fence encloses the canopy of the trees plus some surrounding ground to create a browse-free zone for seedling establishment.

Materials have been purchased to fence five trees that are clustered onto 0.7 ha on a block of private land and this work is supported by the landholder concerned. A second landholder has also agreed to some fencing. Glasshouse germination attempts have begun, and thus far results have suggested that certain unknown factors may be necessary for large-scale germination.

Intended Management Action

- Continue liaison with the Shire of Swan Hill.
- Continue liaison with all three landholders, in a spirit of cooperation, to protect Wilga without adversely affecting farm income.
- Erect the fencing material already purchased to protect the five trees clustered on one private block (see above) from browsing mammals. Fencing will include tree canopies plus a surrounding area of up to about 10 m to protect a zone for potential seedling establishment.
- Fence another group of about 15 trees clustered onto about 1.2 ha on a second private land block, again maintaining a protected area beyond the canopies. The landholder has agreed to the fencing.

- Pursue appropriate options of voluntary reservation, such as the Land Protection Incentive Scheme and Land for Wildlife.
- Map the positions of all Wilgas currently standing for long-term monitoring.
- Monitor all fenced plots every two years to identify seedling establishment.

Other Desirable Management Actions

- Conduct experimental glasshouse seed germination trials at the DCE Nursery in Mildura to establish what conditions may be necessary in the field for successful regeneration. Where appropriate, those conditions should be applied to the field population, initially in a controlled experiment.
- Conduct, ultimately, habitat restoration works so that natural ecological processes have an opportunity to operate.
- Consider planting Wilga tube stock into the road reserve and River Murray Reserve if works to encourage natural recruitment into the population are ineffective.
- Establish a seed bank with seed being stored by both the Royal Melbourne Botanic Gardens and the seed store at the DCE Nursery, Pioneer Way, Mildura. *Ex situ* conservation measures should be applied in line with the Royal Melbourne Botanic Gardens Draft Policy on *ex situ* plant conservation.

Legislative Powers Operating

Legislation

Flora and Fauna Guarantee Act 1988-Wilga is a protected species under this Act, however, critical habitat determination is necessary for the complete protection of the taxon. Shire of Swan Hill By-law No 3-This By-law provides protection from droving for significant patches of vegetation within the Shire of Swan Hill.

Licence/Permit Conditions

No permits should be issued for cutting, removing or clearing Wilga.

Declaring this area as critical habitat for Wilga is a necessary step in the complete protection of this species.

Consultation and Community Participation

The three landholders with Wilga on their properties and the Shire of Swan Hill will continue to be consulted on this issue. A cooperative approach to the conservation of Wilga is necessary for its success.

Implementation, Evaluation and Review

The Regional Manager Mildura is responsible for the implementation of the proposed actions.

The field site should be monitored biennially for seedling establishment and every 3-4 years for the health of the existing trees. Germination trials should be reviewed at least annually. This action statement should be reviewed in 1996.

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Contacts

Species Management

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Flora & Fauna Guarantee Officer, Mildura Region, NRE.

Supervision of Works

Land Protection Officer, Piangil, Mildura Region, NRE.

Compiler

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Further information

Further information can be obtained from Department of Sustainability and Environment Customer Service Centre on 136 186.

Flora and Fauna Guarantee Action

Statements are available from the Department of Sustainability and Environment website:
<http://www.dse.vic.gov.au>

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