

# Flora & Fauna Guarantee Action Statement

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This Action Statement was first published in 1993 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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## Whipstick Westringia *Westringia crassifolia*



Whipstick Westringia (*Westringia crassifolia*)



Distribution in Victoria (DSE 2002)

### Description and Distribution

Whipstick Westringia (*Westringia crassifolia*) is an erect spindly shrub up to 2 m high with slender, longitudinally ribbed branchlets, sparsely covered with short soft hairs. The dark green leaves are in whorls of three; they are narrow and ovate, with margins minutely toothed, 5-15 mm long, 1.5-2.5 mm wide and rather thick. The upper surface is concave and both surfaces are slightly rough from the presence of minute tubercles.

The lavender-blue flowers are borne freely towards the ends of the branches between August and September. The cup-shaped calyx is about 5 mm long, has five equal teeth and is covered externally with minute greyish hairs. The corolla is hairy on the outside, about 12 mm long, with two lips: the central lobe of the broad lower lip is emarginate (notched). Its blue colour shades into white in the throat where it is dotted with orange yellow spots. The fruit is dry, splitting at maturity into four one-seeded nutlets, enclosed by the persistent calyx.

The species is endemic to Victoria and is restricted to several small sites in one area of uncommitted Crown Land between the Whipstick and Kamarooka State Parks, and to four sites within the Little Desert National Park.

In the Whipstick area north of Bendigo, Whipstick Westringia occurs on gully flats, fringing lower slopes and in shallow gullies on Ordovician sedimentary rocks.

Overstorey species include Red Ironbark-Yellow Gum (*Eucalyptus sideroxylon*-*E. leucoxylon*) open forest, Blue Mallee-Bull Mallee-Green Mallee (*E. polybractea*-*E. behriana*-*E. viridis*) mallee, or just Green Mallee.

Understorey species include Totem-Poles (*Melaleuca decussata*), Dogwood (*Cassinia arcuata*), Gold-Dust Wattle (*Acacia acinacea*) and occasionally Broombush (*Melaleuca uncinata*).

In the Little Desert National Park it occurs at four sites; three on seasonally inundated flats and one on a low stony ridge. Mallee eucalypts dominate the overstorey, including Green Mallee, Slender-Leaved Mallee (*E.*,

*leptophylla*) and Yellow Mallee (*E. incrassata*). The shrub layer often includes, Broombush, Violet Honey-myrtle (*Melaleuca wilsonii*), Desert Hakea (*Hakea muellerana*), Mint-bush (*Prostanthera aspalathoides*) and Gold-Dust Wattle. Seed appears to be viable for several years in the Little Desert National Park and effective germination has occurred after fire and successive flooding.

## Conservation Status

### Current Status

Briggs *et al.* (1988) Endangered

Gullan *et al.* (1990) Endangered

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

### Reasons for Conservation Status

The species is extremely rare, existing in small isolated populations. It does not coppice (produce stems from rootstock) after fire, and it could be destroyed if two successive fires occurred before seed had set.

The total state population is estimated to be 400 plants.

The species is at serious risk of disappearing from the wild state within one to two decades if the present land use and other causal factors continue to operate (Briggs *et al.* 1988).

In the Whipstick area, five of the six known sites are in gullies where active erosion is progressively removing the alluvial floor and its associated plants. In one such gully, erosion is almost certainly responsible for the decline of Whipstick Westringia (only one specimen remains). In another gully, silt from nearby road runoff is burying plants on the gully floor throughout the major Westringia colony.

Browsing or grazing by native and introduced animals, including the Swamp Wallaby (*Wallabia bicolor*), Brown Hare (*Lepus capensis*) and to a lesser extent Rabbit (*Oryctolagus cuniculus*) and the feral Goat (*Capra hircus*) also threatens the species.

Other threats in the past have included illegal cutting or seed collection, picking of flowers and trampling by bushwalkers, including those wishing to see the species. Mining is a potential threat to the populations on uncommitted Crown Land.

The threats to the Little Desert National Park sites include fire (there is a low probability of frequent fires as the build up of fuel is low), grazing by native animals and possible disease.

In its final recommendations, the Scientific Advisory Committee (1991) has determined that the Whipstick Westringia is

- rare in terms of abundance and distribution; and
- significantly prone to future threats which are likely to lead to extinction

### Major Conservation Objective

To ensure the long term viability of naturally occurring Whipstick Westringia by:

- protecting existing plants;
- encouraging natural regeneration in the Little Desert National Park; and

- planting tubestock so that there will be at least 800 seed-bearing shrubs on public land in the Whipstick area north of Bendigo within the next 5 years.

## Management Issues

### Ecological Issues Specific to the Taxon

The long-term viability of the species is unknown. At five of the six sites north of Bendigo there is little or no evidence of recent seedling germination. There is abundant evidence of severe browsing, particularly on the lower branches and the smaller plants.

In contrast, there are numerous new plants and seedlings in the Little Desert National Park sites.

An introduced weed, Large Quaking-grass (*Briza maxima*), is present at three of the Westringia sites. This plant has successfully colonised similar areas further south, and has the potential to invade all known Westringia sites, further impeding natural regeneration. This weed is easily spread by water movement and soil disturbance, particularly from road maintenance activities such as grading.

The same locality in the Whipstick area has been used for eucalyptus oil production since the beginning of the century, and was last cut in 1983. Originally the eucalypts were cut by hand, but this has been superseded by mechanical harvesters which cut regrowth close to ground level at approximately two-year intervals.

Concerns have been expressed about the long-term effects of harvesting. It is known that harvesting mallee eucalypts can lead to increased runoff and erosion (LCC 1981). The Whipstick Public Lands Proposed Management Plan (April 1989 p.31) recognises the need to establish information about the ecological effects of harvesting.

It is likely the present erosion problems within the uncommitted area have been accentuated by, if they are not the result of, previous and current land-use activities, such as eucalyptus harvesting, gold mining and road works.

In the past, a walking track meandered through an area of Westringia plants within the Phillips Gully, resulting in soil compaction, increased runoff and a greater threat of erosion. Illegal flower picking and cutting collection also occurred. The Land Conservation Council (LCC) Final Recommendations for the North Central Study Area (LCC 1981) recommended that public land bordered by Boundary Road to the west, Millwood Road to the east, Melottes Road to the south and freehold to the north, be designated as uncommitted public land and not committed to a primary form of land use. Within this area the LCC recommended the setting aside of Phillips Gully Flora Reserve, to be used to preserve the endangered species Whipstick Westringia. These recommendations were accepted by Government on 24 August 1982. The precise boundaries of the Flora Reserve are unclear but do not correspond to any of the Westringia areas located.

### Wider Conservation Issues

Myers & Elton (1982) regard the Whipstick area as unique and of utmost importance for conservation. They point to the occurrence of mallee vegetation on rocky clay soils, and the presence of many species of native plants.

Protecting Whipstick Westringia complements other conservation strategies that are in place in the Wychitella Flora and Fauna Reserve and the Whipstick area. Any land protection measures undertaken to protect Whipstick Westringia, such as Rabbit, weed and erosion control, will have significant off-site benefits in reducing land degradation.

## Social and Economic Issues

Achievement of the conservation objectives requires that several social and economic issues be addressed. However, protecting Whipstick Westringia will not have any significant adverse impact.

Several activities that could threaten the Whipstick Westringia on public land are already controlled to protect many values apart from this species. While the controls may have some negative impacts, the public benefits have already been judged to be higher.

Occasional illegal activities on public land, such as the collection of cuttings and seed and the cultivation of Marijuana plots, are important social issues involved in the protection of Whipstick Westringia. The basic causes, whether ignorance, private gain or a perception of public land as being a free resource or having little value, need to be identified and addressed.

Future studies on the ecology, biology, appropriate fire regime and distribution of Whipstick Westringia may indicate the need to alter current management practices to ensure its long-term viability.

There are no known occurrences on private land. Some discoveries are possible. However, they will only be found as part of remnant vegetation communities indicating that current management is compatible with their presence. Such discoveries are unlikely to lead to adverse impacts on landholders.

The eucalyptus leaf harvesting for oil production that previously occurred in this Whipstick area was relocated to other suitable areas, partly to protect Whipstick Westringia. There has been no net loss to the producers.

No mining is currently undertaken within the areas. It is unlikely in future because of planning constraints. All social and economic matters for and against preservation should be considered if future applications are made.

Protecting the population may require the local shire to make some modification to road drainage to ensure that the site is not adversely affected. This is not likely to be very expensive.

At this stage the precise locations of all sites should be kept concealed as vandalism could be considered a threat in this area. Fencing the area has been discussed; it would reduce the effects of grazing animals, but could attract further attention if the area was also signposted. The plant is inconspicuous and may easily be confused with a number of other species, which should provide ample protection from vandalism in the short term.

## Management Action

### Previous Management Action

Within the Whipstick Public Lands, previous management actions have entailed

- relocating licence holders for eucalyptus oil production from the uncommitted area containing Whipstick Westringia;
- creating Phillips Gully Flora Reserve, principally for the preservation of Whipstick Westringia;
- prohibiting fossicking and prospecting from the uncommitted area containing Whipstick Westringia;
- Park Ranger staff collecting cuttings from selected plants, which have since been propagated by Bendigo Environmental Services. Some 25 plants are now available;
- Park Rangers closely monitoring the population in 1990 and 1991;
- constructing an erosion control structure in Phillips Gully in 1990; and
- realigning a walking track passing through a stand of Whipstick Westringia.

Within the Little Desert National Park, previous management actions have entailed

- closely monitoring the population since 1987;
- safeguarding the population from fire protection fuel reduction burns;
- relocating track to avoid Whipstick Westringia; and
- marking trackside populations (for CNR staff only) to prevent damage during track maintenance.

### Intended Management Action

#### Monitoring

- Monitor known colonies each year at flowering time.
- Monitor browsing damage by native and introduced animals.
- Monitor the invasion of Large Quaking-grass and the presence of Brown Hares, feral Goats and to a lesser extent Rabbits within the Whipstick Public Lands and investigate and pursue an eradication program.

#### Park Ranger Presence

- Within the Whipstick Public Lands, increase Park Ranger presence in the area to deter visitors from illegal activities such as off-road driving and riding, collecting firewood, and removing plants, flowers or cuttings, and to regulate their activity so that, for example, they walk only on formed tracks.

#### Propagation

- Establish a small population of Whipstick Westringia at the Bendigo Seed Orchard, managed by Bendigo Environmental Services, from which future material for propagation can be taken, thus relieving naturally occurring populations of further stresses.
- Continue to propagate specimens under Park Ranger supervision, and consolidate existing populations with properly guarded tubestock within the Whipstick Public Lands.

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- Establish a seed bank from Whipstick Westringia collected from the Little Desert National Park when seed is plentiful.

## Protection

- Where appropriate, fence the original and any newly established or discovered populations to reduce grazing and to prevent accidental or deliberate disturbance or destruction of Whipstick Westringia within the Whipstick Public Lands.
- Continue to maintain markers to identify sites for CNR staff in the Little Desert National Park.
- Fence out some of the areas of Whipstick Westringia to minimise browsing and encourage natural regeneration.
- Guard the isolated individuals with double thickness tree guards to minimise browsing damage.

## Erosion Control

- Continue to monitor the effectiveness of the structures built in 1990.
- If necessary, investigate alternatives to reduce further gully erosion, particularly in those gullies containing Whipstick Westringia within the Whipstick Public Lands.

## Road Closures

- Close tracks to all vehicles, other than management vehicles, within the uncommitted area in Whipstick Public Lands.
- Seasonal closure of tracks within the Little Desert National Park may be necessary.

## Liaison

- Improve liaison with the Rural City of Marong and Shire of Huntly in relation to their roading works in the area, to minimise weed invasion and disperse water runoff from roads.

## Research

- Encourage research into the ecological requirements and reproductive biology of the species. Make limited quantities of seed or cutting material available to appropriate people to foster this research.

## Fire Protection

- Prevent fires in the area. This is essential, as the species does not coppice after fire and could easily be destroyed by two successive fires (which would prevent seed set). Within the Little Desert National Park the Whipstick Westringia sites are excluded from fire protection fuel reduction burns.

## Other Desirable Management Action

Continue to search for new populations of Whipstick Westringia. If other populations are found they will increase the genetic resource of the species and could be used in a program to create more healthy and genetically diverse populations. Subsequent discoveries would also further contribute to the ecological understanding of the taxon.

## Legislative Powers Operating

### Legislation

*Flora and Fauna Guarantee Act 1988*: provides for the

protection of flora and fauna in Victoria and the declaration of critical habitat if so designated.

*Planning and Environment Act 1987*: provides, through the State Section of all planning schemes, protection of native vegetation.

*National Parks Act 1975*: provides for the protection of flora and fauna within National Park boundaries.

## Licence/Permit Conditions

A permit for the collection of Whipstick Westringia seed or any vegetative material will only be given for work which is in accordance with the conservation objectives.

## Consultation and Community Participation

CNR will consult with the local community to ensure the protection of the populations on public land, and with the adjacent landholders to foster propagation of the taxon on private land.

## Implementation, Evaluation and Review

The Area Manager North West will be responsible for coordinating the implementation of this action statement and annual monitoring of the effectiveness of actions taken.

## Contacts

### Management

CNR Flora and Fauna Guarantee Officers, Bendigo and Horsham

### Biology

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### Taxonomy

David Albrecht, National Herbarium, Melbourne.

## Compilers

Ron Davies and Mark Riley

## 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>

## References

- Briggs D. & Leigh, J.H. (1988) *Rare or Threatened Australian Plants*. Special Publication No. 14, Australian National Parks & Wildlife Service, Canberra.
- DSE (2002) Flora Information System (Electronic Flora Database). Parks, Flora & Fauna, Department of Sustainability & Environment, East Melbourne.
- Gullan, P.K., Cheal, D.C. & Walsh, N.G. (1990) *Rare or Threatened Plants in Victoria*. Dept of Conservation & Environment, Victoria.
- LCC (1981) *Final Recommendations for the North Central Study Area*. Land Conservation Council, Victoria.
- Leigh, J.H., Boden, R. & Briggs, J.D. (1984) *Extinct and Endangered Plants of Australia*. Macmillan Aust. Pty. Ltd.
- SAC (1991) Final Recommendation on a nomination for listing: Whipstick Westringia *Westringia crassifolia* (Nomination no. 155). Scientific Advisory Committee, Flora and Fauna Guarantee. Dept of Conservation & Environment, Victoria.
- Wakefield, N.A. (1957) *Victorian Naturalist* 73 :187.