

Flora & Fauna Guarantee Action Statement

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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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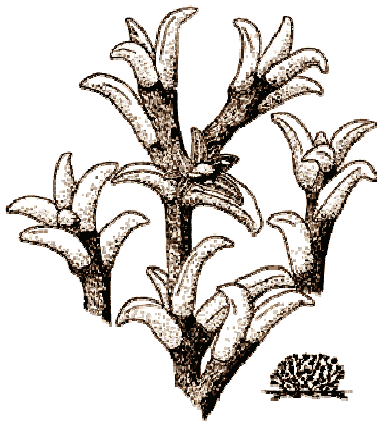
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Mallee Hemichroa

Hemichroa diandra



Mallee Hemichroa (*Hemichroa diandra*)
(Illustration by Simon Cropper)



Distribution in Victoria (DSE 2002)

Description and Distribution

Mallee Hemichroa (R. Br.) is a perennial spreading woody herb or low shrub measuring 30 cm tall by up to 100 cm wide, with many woody stem bases that branch at ground level. The small succulent leaves are pale green and pointed with the degree of succulence varying with the season. Flowers are usually pink and occur singly along the stems at the base of the leaves. Each flower possesses two stamens with the filaments distinctly coloured red. Seeds are small, smooth, brown and obovoid. The species is currently known only from a single plant at the southern margin of a saline discharge pan on private land, approximately 4 km west of Nowingi and 50 km south of Mildura. There are a small number of historical records scattered from similar habitat in the north-west of the state. All these sites have been searched, however, and the plant is now believed to be restricted to the Nowingi site. The species occurs in all mainland states with

the exception of Queensland (Willis 1972).

Conservation Status

Current Status

Gullan et al. (1990) Endangered

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

Reasons for Conservation Status

The Scientific Advisory Committee (1991) has determined that the Mallee Hemichroa is:

- in a state of demonstrable decline which is likely to result in extinction;
- significantly prone to future threats which are likely to result in its extinction; and
- very rare in terms of abundance or distribution.

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The existence of the plant on private land that is grazed, its failure to regenerate at the site, combined with past threats such as trailbike damage and activity within the area, serve to make Mallee Hemichroa a highly threatened species.

Major Conservation Objectives

- To protect the existing plant and encourage its regeneration.
- To enhance the habitat of the existing plant by excluding grazing.
- To successfully propagate the plant.
- To introduce and maintain 150 propagated plants of the Nowingi provenance to the Nowingi private land site.

Management Issues

Ecological Issues Specific to the Taxon

Very little is known about the ecology or biology of the species. In South Australia the species is a component of coastal and near-coastal saline shrublands around Spencer Gulf and Gulf of St Vincent with some records existing for inland sites near Lake Eyre (Chinnock pers. comm.). The plant has also been recorded from a site near Barooga in New South Wales where soils were described as 'very salty' with total dissolved salts measured at 13 880 ppm. The Victorian record occurs at the Nowingi site about 15 m from the southern edge of a saline or regional groundwater discharge pan. The soil substrate in the vicinity is undoubtedly saline but is raised approximately 80 cm above the level of the saline pan floor level. *H. diandra* occurs in association with *Frankenia crispa*, *F. foliosa*, *Sclerostegia moniliformis*, *Halosarcia pruinosa*, *Sclerolaena uniflora* and *Riccia albida*.

This saline shrubland sub-community gives way to one dominated by *Halosarcia nitida*, *H. halocnemoides*, *H. pergranulata* and *H. pruinosa* at the saline pan's edge, where the influence of saline discharge from the regional groundwater is greater. Clearly the taxon grows on saline substrates in both inland and near coastal locations and this environmental variable is critical in controlling the plant's distribution.

Wider Conservation Implications

The long-term chances of the single plant at Nowingi surviving and reproducing *in situ* are remote. The conservation of the remaining gene pool by *ex situ* methods is seen as the only viable alternative to guarantee the long-term survival of the species in Victoria. The *ex situ* conservation strategy envisaged would be conducted in accordance with the Royal Botanic Gardens Draft Plant Conservation Policy on *ex situ* plant conservation and the recommendations of the CONCOM Working Group on Endangered Flora (1990).

Social and Economic Issues

The landholder is keen to help conserve the plant, and will not be adversely affected by the conservation proposals

suggested in this document. Activities such as trailbike riding within the area, which have previously damaged the plant, have been conducted without the landholder's consent.

Management Action

Previous Management Actions

- Numerous surveys for Mallee Hemichroa through suitable saline sites in north-western Victoria have been conducted by J.H. Browne in association with Dr R.F. Parsons of La Trobe University. All have been unsuccessful.
- Since 1981, the plant has been monitored by local botanist Mr J.H. Browne and DCE staff.
- A fence measuring 2 m x 2 m x 1.5 m high was placed around the plant by DCE staff in February 1991. The landholder has agreed to further measures to assist in re-establishing additional plants.

Intended Management Actions

- Erect three rabbit and stock proof enclosures of 10 x 10 m near the existing Nowingi site.
- Test a number of different strategies for propagating the plant (e.g. cuttings, seed).
- Reintroduce 50 propagated plants into each of the Nowingi enclosures.
- Monitor the populations for a period of five years.
- Erect an information board at the site explaining the project to visitors to the area.
- Consider the introduction of plants from nearby localities in other states to avoid inbreeding depression and improve the quality of genetic stock.

The latter action in particular would serve as a useful educational tool as the site exits along the Old Nowingi Railway Line and Road, a major entry point to the newly declared Murray-Sunset National Park.

Legislative Powers Operating

Legislation

Flora and Fauna Guarantee Act 1988: provides for protected flora controls and the protection of critical habitat if so designated.

Licence/Permit Conditions

Permits for the collection of Mallee Hemichroa seeds or vegetative material will only be given for work which is in accordance with the conservation objectives and prescribed management actions.

Consultation and Community Participation

The landholder has been informed about the conservation significance of the plant and has agreed to cooperate with the intended management actions.

Implementation, Evaluation and Review

The Regional Manager, Mildura, will monitor the implementation of the action proposals and evaluate their effectiveness in achieving the conservation aims. Propagation results will be reviewed at the end of 12 months and replanting at the Nowingi site is scheduled for autumn 1993.

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The replanting trials should be monitored annually. This Action Statement will be reviewed in 1997.

Contacts

Management

Flora and Fauna Guarantee Officer, Mildura Region.

Biology

Flora Branch, DCE, Cotham Road Kew.

Mr J.H. Browne, local botanist, Red Cliffs.

Botany Department, La Trobe University.

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Compilers

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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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