

Action Statement

Flora and Fauna Guarantee Act 1988

No. 215

Euroa Guinea-flower *Hibbertia humifusa* subsp. *erigens*

This Action Statement is based on a draft Recovery Plan prepared for this species by DSE under contract to the Australian Government Department of the Environment, Water, Heritage and the Arts.

Description

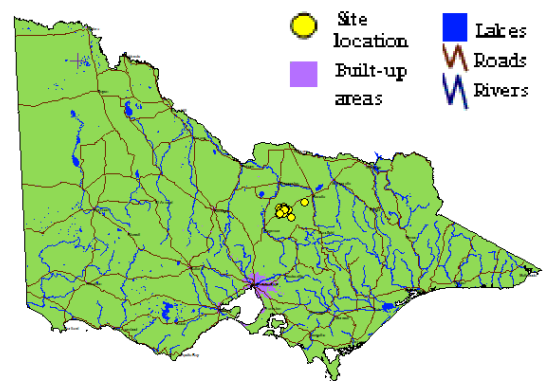
Euroa Guinea-flower (*Hibbertia humifusa* subsp. *erigens*) is a low procumbent shrub with numerous, wiry branches up to 25 cm in length, with scattered stellate hairs. The yellow flowers are held on long very narrow peduncles that have a single bract near the base. The sepals are 4.2-7.5 mm in length and 1.9-3.0 mm wide. The leaves are narrow elliptic, 5.9-9.0 long and 0.9-3.0 mm wide, gradually constricted to a blunt, rarely acute, apex with a tuft of simple hairs. Flowers are produced from September to November (Walsh & Entwisle 1996).



Euroa Guinea-flower (Photo:Downe)

Distribution

Euroa Guinea-flower is apparently confined to north-eastern of Victoria and is mostly associated with woodlands with shallow sandy loams. Populations are known from Longwood, Euroa, Creighton, Avenel and Locksley.



Distribution in Victoria
(Flora Information System DSE 2007)

Abundance

The population of Euroa Guinea-flower is unknown, but likely to be in the thousands. These plants occur in 14 known populations. The extent of range and abundance of Euroa Guinea-flower prior to European settlement is unknown but likely to have been over 50,000.

Habitat

Populations of Euroa Guinea-flower tend to occur in *Eucalyptus blakelyi*, *Eucalyptus polyanthemus* and *Eucalyptus macrorhyncha* woodland with an *Acacia verniciflua*, *Acacia genistifolia* and/or *Acacia implexa* tall shrub understorey. Smaller shrubs, grasses and ground covers include *Gonocarpus tetragynus*, *Melichrus urceolatus*, *Aristida ramosa* and *Themeda triandra*. Some populations have also been found to be associated

with a Buloke (*Allocasuarina luehmannii*) - dominated woodland that is a listed community

(Grey Box - Buloke Grassy Woodland) under the Victorian *Flora and Fauna Guarantee Act 1988*.

Important populations

Important populations necessary to the long term survival and recovery of Euroa Guinea-flower occur in the following locations:

Tenure/Reservation	Site
State Forest	Warrenbayne – Strathbogie State Forest
Other Unreserved Crown Land	Euroa Arboretum (Euroa Arboretum Inc.) Creighton Rail Reserve, (Freight Australia)
Roadsides (Shire of Strathbogie)	Berry’s Lane, Longwood Hume Freeway, Longwood Mansfield – Longwood Road, Longwood Seven Creek Estate Road, Euroa Mansfield Road, Euroa Walter’s Road, Euroa Old Hume Hwy, Avenel
Private Land	Creightons Creek, Longwood – Gobur Road, Longwood Drysdale Road and Longwood – Pranjip Road, Longwood Mansfield – Longwood Road, Longwood Airfield, Drysdale Road, Euroa Drysdale Road, Euroa (ex – proposed tip) Between Old Hume Highway and Hume Highway, Euroa

Life history and ecology

Little is known of the biology and ecology of Euroa Guinea-flower and further investigation is required. The taxon has mostly been recorded from disturbed sites in north east Victoria with nutrient-poor, gravelly soils.

Conservation status

National conservation status

Euroa Guinea-flower is listed as ‘vulnerable’ under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

Victorian conservation status

Euroa Guinea-flower is listed as ‘threatened’ under the Victorian *Flora and Fauna Guarantee Act 1988*.

It is considered ‘vulnerable’ in Victoria according to DSE’s *Advisory List of Rare or Threatened Plants in Victoria – 2005* (DSE 2005).

Potentially threatening processes

The largest population occurs in the Warrenbayne-Strathbogie State Forest, on crown land. Although further investigation of this site is required, some threats are known. These include firewood

collection and habitat fragmentation from walking tracks. Potential threats include the grazing of stock and infection by the pathogen Cinnamon Fungus (*Phytophthora cinnamomi*) (Wrigley 1979).

The majority of the remaining populations are found on roadsides or private land sites. The roadside populations tend to be small, narrow, sometimes fragmented and potentially vulnerable to changes in management. Threats to roadsides include weed invasion, vehicle traffic, soil disturbance such as road grading, and rubbish dumping, as well as occasional alteration of hydrological regimes as a result of drainage construction. Private land sites are also threatened by weed invasion, soil disturbance, grazing and rubbish dumping.

Commonly reported weed species reported include: *Acetosella vulgaris*, *Aira elegans*, *Arctotheca calendula*, *Asparagus scandens*, *Briza maxima*, *Briza minor*, *Bromus catharticus*, *Ehrharta calycina*, *Ehrharta longiflora*, *Erodium sp.*, *Holcus sp.*, *Hypochoeris radicata*, *Paspalum dilatatum*, *Pennisetum clandestinum*, *Romulea rosea*, with the nationally significant Blackberry (*Rubus fruticosus* spp. agg.) being present at some sites.

Greater protection from direct damage is required for many roadside sites. Vehicle and stock access will be strongly discouraged or prevented. The closure of access tracks to some populations will be considered, in other cases, negotiation with landholders and signage will be required. A project officer will assist the Shire of Strathbogie to identify and map populations to include in geospatial data libraries and roadside management plans in order to prevent future damage. Currently roadside management activities are required to follow guidelines developed by VicRoads.

Given that all unreserved sites are at risk of further degradation from numerous threats, actions to enhance and protect these populations are a key component of this Action Statement.

Weed invasion

Weed invasion is currently the greatest threat to all unreserved populations.

Fragmentation and direct habitat loss

Some populations appear to be threatened by vehicular traffic, soil dumping and road maintenance. Fragmentation is currently a serious threat to all sites. Within state forest, walking tracks fragment the population. Roadsides are significantly isolated and fragmented by their shape.

Soil disturbance / alteration of hydrology

Some roadside sites and one private land site is currently threatened by soil disturbance. In some cases, this impact is due to grading and drainage construction on roadside sites. Erosion has been recorded on a number of roadside sites and will be exacerbated by continued soil disturbance. Drainage construction in itself could act as a threatening process as it is likely to alter hydrological processes.

Long term objective

To ensure that the Euroa Guinea-flower can survive, flourish and retain its potential for evolutionary development in the wild.

Specific objectives, actions and targets

The intended management actions listed below are further elaborated in DSE's Actions for Biodiversity Conservation (ABC) system. Detailed information about the actions and locations, including priorities, is held in this system and will be provided annually to land managers and other authorities.

Objective I To increase knowledge of biology, ecology and management requirements

Action	Targets	Responsible
1. Acquire baseline population data. Identify the area and extent of the population; estimate the number, size and structure of the population; and infer or estimate population change.	<ul style="list-style-type: none"> ▪ Determination or update of conservation status and other records on all State databases (FIS, VrotPop and Herbarium). ▪ Populations accurately mapped. 	DSE

Stock and rabbit activity

The impact of grazing by stock is currently not known. Rabbit (*Oryctolagus cuniculus*) activity is a threat on roadside sites and possibly some private sites. Competition and land degradation by feral Rabbits is listed under the *Environmental Protection and Biodiversity Act 1999* as a Key Threatening Process.

Firewood collection

Modification of habitat may prove detrimental to the survival of this taxon. Activity associated with the removal of timber may also cause habitat damage.

Lack of reservation

Currently no sites are reserved for the purpose of nature conservation.

Infection by *Phytophthora cinnamomi*

Some *Hibbertia* species are susceptible to the root pathogen Cinnamon Fungus (*Phytophthora cinnamomi*).

Activity by stock

The impacts of stock are currently unknown. Light grazing may be beneficial. Determination of the level of threat is dependent upon results from censusing activities.

Inappropriate biomass reduction

Lack of appropriate biomass reduction may be a threatening process. Investigation into the most beneficial method and regime of biomass reduction is required.

Previous management actions

- Populations mapped and numbers counted in the Warrenbayne-Strathbogie State Forest

2. Assess habitat characteristics and/or condition. Accurately survey known habitat, and collect floristic and environmental information relevant to community ecology and condition.	<ul style="list-style-type: none"> Ecological requirements for the completion of essential life history stages, recruitment and dispersal identified at known sites. Core habitat mapped. 	DSE
3. Conduct survey to locate suitable habitat. Identify and survey potential habitat, using ecological and bioclimatic information that may indicate habitat preference.	<ul style="list-style-type: none"> Predictive model for potential habitat developed and tested. 	DSE, Euroa Environment Group
4. Identify disturbance regimes to maintain habitat or promote regeneration and recruitment.	<ul style="list-style-type: none"> Preparation of management prescriptions for ecological burning and grazing for the Warrenbayne – Strathbogie State Forest and all public land sites. 	DSE
5. Undertake research to identify key biological functions. Evaluate current reproductive/regenerative status, seed bank status and longevity, fecundity, and recruitment levels. Determine seed germination requirements by conducting laboratory and field trials aimed to identify key stimuli.	<ul style="list-style-type: none"> Seed bank/regenerative potential quantified for target populations. Stimuli for recruitment/regeneration identified. Management strategies identified to maintain, enhance or restore regenerative processes fundamental to reproduction and survival. 	DSE, Royal Botanic Gardens
6. Analyse population trends. Measure population trends and responses against recovery actions by collecting demographic information (including recruitment and mortality, timing of life history stages and morphological data). Collate, analyse and report on census data and compare with management histories.	<ul style="list-style-type: none"> Techniques for monitoring developed and implemented. Census data for target populations collected. Population growth rates determined. Population Viability Analysis completed for targeted populations. 	DSE

Objective II To improve the condition of habitat

Action	Targets	Responsible
7. Manage environmental weeds. Control threats from pest plants by using integrated pest plant and animal control methods.	<ul style="list-style-type: none"> Measurable seedling recruitment at all public land sites. A measurable reduction in plant mortality at all public land sites. 	DSE, Shire of Strathbogie
8. Control introduced animals. Control threats from pest animals by using integrated pest plant and animal control methods.	<ul style="list-style-type: none"> Measurable seedling recruitment at all public land sites. A measurable reduction in plant mortality at all public land sites. 	DSE, Shire of Strathbogie

Objective III To secure populations or habitat from potentially incompatible land use or catastrophic loss.

Action	Targets	Responsible
9. Establish cultivated plants <i>ex situ</i> to safeguard from the unforeseen destruction of the wild populations.	<ul style="list-style-type: none"> Development of effective propagation and cultivation techniques. At least 30 mature plants in cultivation. 	Royal Botanic Gardens

10. Establish Management Areas or Special Protection Zones. Negotiate a Special Protection Zone for the Warrenbayne - Strathbogie State Forest.	<ul style="list-style-type: none"> Development of a Special Protection Zone for the Warrenbayne - Strathbogie State Forest. 	DSE
11. Develop or amend planning scheme overlays and schedules. Develop municipal Vegetation Protection and / or Environmental Significance Overlays to legally protect populations in consultation with DSE.	<ul style="list-style-type: none"> Vegetation Protection and / or Environmental Significance Overlays developed. 	DSE, Shire of Strathbogie
12. Erect/maintain signs to restrict or discourage access. Erect "Significant Vegetation" signage at roadside sites.	<ul style="list-style-type: none"> Signage erected at all roadside sites. 	DSE, Shire of Strathbogie
13. Erect/maintain structures to restrict or control access. Control threats from vehicle and stock access by preventing access and re-routing tracks at some roadside sites, undertaking negotiations with adjacent landholders, and fencing selected sites.	<ul style="list-style-type: none"> Measurable seedling recruitment at all public land sites. A measurable reduction in plant mortality at all public land sites. 	DSE, Shire of Strathbogie
14. Negotiate a co-operative management agreement with a private landholder. Negotiate voluntary management agreements with private landowners at all private land sites. Encourage landholders to enter into long-term agreements such as conservation covenants	<ul style="list-style-type: none"> All private landholders approached. 	DSE, Trust for Nature
15. Liaise with private landholders. Ensure that information and advice about the recovery of Euroa Guinea-flower has been provided to private land managers and landholders.	<ul style="list-style-type: none"> All relevant private land managers are aware of the species and its management needs. 	DSE
16. Liaise with government agencies. Ensure that information and advice about the recovery of Euroa Guinea-flower has been provided to public land managers, local government authorities and Catchment Management Authorities	<ul style="list-style-type: none"> All relevant authorities and public land managers are aware of the species and its management needs. 	DSE

Objective IV To increase the number of populations or individuals

<i>Action</i>	<i>Targets</i>	<i>Responsible</i>
17. Store reproductive material. Establish a seed bank.	<ul style="list-style-type: none"> Long-term storage facility identified. Seed from target populations in storage. 	DSE, Royal Botanic Gardens
18. Determine seed viability.	<ul style="list-style-type: none"> Seed viability determined. 	RBG

Objective V To increase community awareness and support

<i>Action</i>	<i>Targets</i>	<i>Responsible</i>
19. Involve community groups and volunteers in recovery activities, especially the Euroa Arboretum and Euroa Environment Group.	<ul style="list-style-type: none"> Opportunities for involvement identified, promoted and supported 	DSE

References

- DSE (2005) *Advisory List of Rare or Threatened Plants in Victoria - 2005*. Department of Sustainability and Environment, East Melbourne, Victoria.
- Walsh, N.G. & Entwisle, T.J. (1996) *Flora of Victoria Volume 3*: Inkata Press, Melbourne.
- Wrigley JW (1979) 'Australian native plants: a manual for their propagation, cultivation and use in landscaping.' (Collins: Sydney)

This Action Statement has been prepared under section 19 of the Flora and Fauna Guarantee Act 1988 under delegation from Mr Peter Harris, Secretary, Department of Sustainability and Environment, July 2008.

Published by the Victorian Government Department of Sustainability and Environment

Melbourne, July 2008

© The State of Victoria Department of Sustainability and Environment 2008

This publication is copyright. No part may be reproduced by any process except in accordance with the provisions of the *Copyright Act 1968*.

Authorised by the Victorian Government, 8 Nicholson Street, East Melbourne.

ISSN 1448-9902

For more information contact the DSE Customer Service Centre 136 186

Disclaimer

This publication may be of assistance to you but the State of Victoria and its employees do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication.

Accessibility

If you would like to receive this publication in an accessible format, such as large print or audio, please telephone 136 186, 1800 122 969 (TTY), or email customer.service@dse.vic.gov.au
This document is also available in PDF format on the Internet at www.dse.vic.gov.au