

# Action Statement

Flora and Fauna Guarantee Act 1988

No. 109

## Plump Swamp Wallaby-grass *Amphibromus pithogastrus*

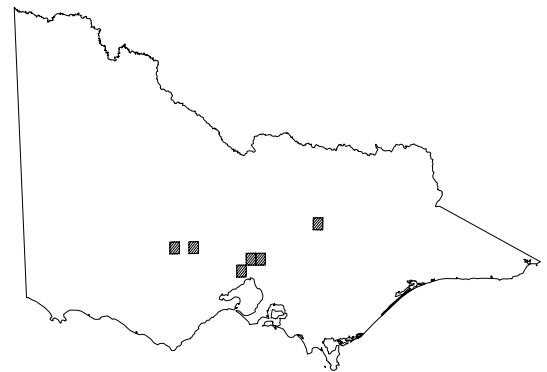
### Description and Distribution

Plump Swamp Wallaby-grass *Amphibromus pithogastrus* (S. W. L. Jacobs and L. Lapinuro 1986) is a tufted perennial grass to one metre tall. The leaf blades are linear, flat to inrolled, to 20cm long and 1.5 to 5mm wide. The inflorescence is a slender, erect panicle to 25cm long with the spikelets on hispid pedicles less than 3cm long. The awn is bent and twisted, from 9 to 16cm long. *A. pithogastrus* is distinguished from other species of *Amphibromus* by the relatively short ligule, swollen lemma and relatively short palea. A detailed description is found in Walsh and Entwisle (eds. 1994).

In Australia, Plump Swamp Wallaby-grass is only known from NSW and Victoria. It is presumed extinct in the south eastern part of NSW, and is now known from only the Bathurst and Armidale areas (Briggs & Leigh 1996). In Victoria, Plump Swamp Wallaby-grass is currently confined to treeless grassland or sedgeland, however some of the sites may have been lightly wooded at European settlement. Habitat includes: gilgai depressions in seasonally wet Kangaroo Grass *Themeda triandra* dominated grassland, a seasonal soak dominated by Common Bog-rush *Schoenus apogon* and in a stand of Sedge *Carex* sp. aff. *bichenoviana*.

The soil at one site (Creswick) comprises fertile outwash slopes of tertiary sediments near the boundary of basalt terrain. All the other known sites are on basalt derived soils. These range from heavy grey clay to black clays or duplex silty soils.

Plump Swamp Wallaby-grass has been recorded at only seven sites in Victoria. The total known Victorian population is less than 20 plants, although further searching at some sites is required to determine accurate population sizes.



**Distribution in Victoria**

[source: Flora Information System, NRE 2000]

The species was recorded on private property at Monkey Gully near Mansfield in 1940 but is now likely to be extinct in this locality due to habitat alteration. It has more recently been recorded in grasslands on private land around the outskirts of Melbourne, Cooper Street (one plant), near Donnybrook (three plants), Craigieburn Grasslands (a few plants not observed since the site was heavily grazed) and the Angliss Estate at Derrimut (one plant), on private property at Whitestone Swamp at the base of Mt Ercildoune to the west of Ballarat (one plant) and on a disused Rail Reserve at Creswick (a Conservation Area managed by Parks Victoria) to the north of Ballarat (ten plants).

### Conservation Status

#### Current status

ANZECC (1999) poorly known (Aust.)

NRE (2000) endangered (Vic.)

Plump Swamp Wallaby-grass has been listed as a threatened taxon under the **Flora and Fauna Guarantee Act 1988**.

### Reasons for conservation status

In Victoria, the total known population of Plump Swamp Wallaby-grass is less than 20 plants, known from only seven sites, all of which are vulnerable to destruction by single events, and some of these sites may no longer support the species. In its final recommendations the Scientific Advisory Committee (SAC 1992) states that '*Amphibromus pithogastrus* is at risk of extinction because of very small populations and the very real threat of habitat loss due to cropping, pasture improvement, sand mining, cultivation, minor earthworks, off-road driving and industrial or residential development. The habitat of Plump Swamp Wallaby-grass has been substantially modified and further substantial depletion of its habitat is likely to threaten the survival of the species in Victoria.'

Part of the Cooper Street site was purchased for its grassland values by the Victorian Government in 1992; the remainder is zoned for industrial development. However, the site that Plump Swamp Wallaby-grass was recorded from was not included in the area reserved (and has since been grazed), and the reserved area may not contain any of the suitable habitat type. Sand extraction is very likely to occur on the Whitestone Swamp site and this could also result in local extinction of Plump Swamp Wallaby-grass. Whilst the Craigieburn site has been purchased for a grassland reserve, it has been heavily grazed since the species was last recorded and a subsequent inspection failed to relocate the species. The Creswick site is vulnerable to disturbance and potential displacement by introduced grasses, and no plants were found during monitoring in December 1997.

In its final recommendation the Scientific Advisory Committee (SAC 1992) determined that the Plump Swamp Wallaby-grass is:

- significantly prone to future threats which are likely to result in extinction, and
- very rare in terms of abundance or distribution.

### Major Conservation Objectives

The major conservation objectives are to:

- Protect all known populations of Plump Swamp Wallaby-grass
- Achieve the successful establishment of Plump Swamp Wallaby-grass on five public land sites reserved for conservation purposes, spread across the range of the species;
- Maintain an ex situ population of plants and a seedbank in case the known stands are lost.

### Management Issues

#### Threatening Processes

The known populations of Plump Swamp Wallaby-grass are widely dispersed, very small and

potentially threatened by single events such as cropping, pasture improvement, sand extraction, cultivation and industrial or residential development. Competition from introduced grasses is also a major threat as seven of the nine plant species commonly associated with Plump Swamp Wallaby-grass are introduced species.

#### Ecological issues specific to the taxon

The existing populations are isolated and very small and this may affect genetic vigour. Competition from introduced grasses, including Fog Grass *Holcus lanatus*, Phalaris *Phalaris aquatica*, Brown-top Grass *Agrostis capillaris* and Needle Grass *Nassella* spp., may pose a threat to Plump Swamp Wallaby-grass through direct competition, by reducing potential bare areas for establishment of seedlings. The response of Plump Swamp Wallaby-grass to grazing and fire is not understood, and will need to be investigated to enable suitable management regimes to be adopted. Plump Swamp Wallaby-grass is only known from sites that have not been subject to ploughing and where superphosphate has not been applied.

#### Wider conservation issues

The Victorian Planning Provisions (1997) Particular Provisions, Clause 52.17 requires a permit to be issued before native vegetation can be removed or destroyed. However, as Plump Swamp Wallaby-grass is unlikely to be recognised as significant native vegetation, other than by a trained observer, other steps need to be taken to ensure the survival of the species. On private land this primarily requires active liaison with landholders and the subsequent co-operation of landholders in protecting the species. NRE may be able to offer financial assistance for any on ground works designed to protect Plump Swamp Wallaby-grass.

Efforts to protect Plump Swamp Wallaby-grass may complement the conservation of other rare or threatened grassland species such as Gilgai Blown Grass *Agrostis aemula* var. *setifolia* and the Western Basalt Plains Grassland Community.

#### Previous Management Action

The purchase of the Craigieburn Grasslands is a major step towards the protection of Plump Swamp Wallaby-grass, although this species has not been actively managed at this site. Similarly, the Creswick population occurs within a conservation reserve and has been monitored infrequently, but the reserve has not been managed specifically to protect this species. No specific conservation management has occurred on the private land sites.

## Intended Management Action

### Survey

1. NRE will coordinate targetted surveys in areas of suitable habitat.

### Liaison

2. NRE, in consultation with relevant Catchment Management Authorities and local government authorities will notify private landholders whose land supports known stands of Plump Swamp Wallaby-grass and seek their co-operation in protecting the species and provide them with practical information that will assist them to manage the species appropriately. NRE will liaise with Parks Victoria regarding management for this species at Craigieburn and Creswick.

### Planning

3. NRE and relevant land managers will develop detailed site maps, status reports and management prescriptions for existing sites and proposed establishment sites. Implement the management prescriptions and ensure they include provision for monitoring and weed control if required. Prevent tree planting at Plump Swamp Wallaby-grass sites.

### Fencing and Signposting

4. NRE will pursue the fencing of all known stands to prevent inadvertent loss through activities such as firebreak construction and grazing. All known sites supporting Plump Swamp Wallaby-grass will be signposted or marked to prevent accidental damage.

### Propagation

5. NRE will collect seed from all known populations. This seed will be stored in a reliable seedbank. NRE will facilitate and support the investigation of propagation techniques for Plump Swamp Wallaby-grass. If successful, NRE will facilitate and support the propagation of plants for establishment at selected sites, and for research into the effects of fire and grazing.

### Re-establishment

6. NRE will endeavour to establish new populations of at least 100 plants each at five public land sites in the former range of Plump Swamp Wallaby-grass which are reserved for conservation purposes.

### Monitoring

7. NRE will coordinate monitoring of all public land populations annually recording population size and vigour, extent of weed invasion and other relevant details. Monitor private land populations in a similar manner

where agreed by landholders. Monitoring information will be recorded in standard NRE databases. Community groups will be encouraged to participate under the NRE botanic guardians scheme.

## References

- Briggs, J. D. & Leigh, J. (1996) *Rare or threatened Australian Plants*. 1995 Revised edition. CSIRO: Collingwood.
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- SAC (1992) Final Recommendation on a nomination for listing: Swollen Swamp Wallaby-grass *Amphibromus pithogastrus* (Nomination No. 237). Scientific Advisory Committee, Flora and Fauna Guarantee. Department of Conservation and Natural Resources: Melbourne.
- Walsh N. G. & Entwisle T. J. (1994) *Flora of Victoria. Volume 2. Ferns and allied plants, Conifers and Monocotyledons*. p. 445. Inkata Press: Melbourne.

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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>

This Action Statement was first published in 2000 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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