

Action Statement

Flora and Fauna Guarantee Act 1988

No. 224

Narrow-leaf Bent-grass *Deyeuxia pungens*

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

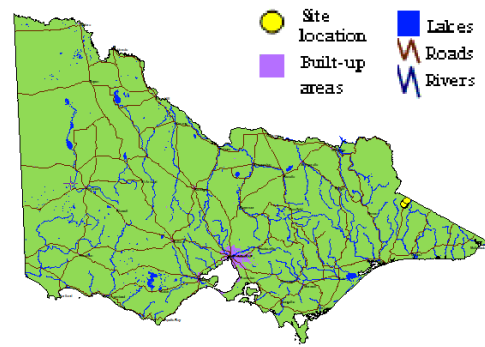
Narrow-leaf Bent-grass (*Deyeuxia pungens*) is a tufted, perennial grass, to 1-m tall (Walsh 1992). Leaves are linear and strongly ribbed, to 45 cm x 1.5 mm, inrolled, hairless, and slightly rough to the touch with a sharp point (Walsh 1992). The ligule is hairless and papery to 11-mm long (Walsh 1992). The inflorescence is a contracted, spike-like panicle, 10-30-cm long, which may be lobed and/or interrupted near the base (Walsh 1992). The glumes are up to 5-mm long and are finely tapered (Walsh 1992). Lemmas are up to 5-mm long, irregularly toothed at the tip, 5-7-nerved, and have a short tuft of hairs at the base (Walsh & Entwisle 1994). A tiny awn, to 0.5 mm long, is sometimes attached just below the tip of the lemma. The Narrow-leaf Bent-grass flowers from December to January (Walsh & Entwisle 1994).

Distribution

Narrow-leaf Bent-grass is currently regarded as a Victorian endemic known from two locations near Suggan Buggan (Walsh 1992). Both populations are within the Alpine National Park. Additional populations may occur in remote and inaccessible areas in the general area and perhaps across the border into New South Wales (approximately 13 km away) (Walsh 1992). The altitudinal range of the known populations is 800-870 m above sea level.

Abundance

It is estimated that 200-400 individuals exist. These plants occur in two populations. The extent of range and abundance of Narrow-leaf Bent-grass prior to European settlement is unknown but there is no evidence to indicate a former wider occurrence.



Distribution in Victoria
(Flora Information System DSE 2007)

Important populations

Important populations necessary to the long term survival and recovery of Narrow-leaf Bent-grass occur in the following locations in the Alpine National Park:

- Ballantyne Hills (~170 plants, with potentially twice as many in other less accessible areas nearby).
- Ingeegoodbee Track (53 plants).

Habitat

The population of Narrow-leaf Bent-grass at Ballantyne Hills occurs in rocky outcrop scrub, and is associated with Red-stem Wattle (*Acacia rubida*), Cherry Ballart (*Exocarpos cupressiformis*), Shiny Leionema (*Leionema lamprophyllum*), Violet Daisy-bush (*Olearia iodochroa*), Grey Everlasting (*Ozothamnus obcordatus*), Pepper Everlasting (*Ozothamnus conditus*), Rock Wax-flower (*Philotheca trachyphylla*) and Shrubby Platysace (*Platysace lanceolata*). The population at Ingeegoodbee Track to the north occurs in dry woodland, and is associated with Hairy Bursaria (*Bursaria lasiophylla*), Red Stringybark (*Eucalyptus macrorhyncha*), Silver Bundy (*E. nortonii*), White Box (*Eucalyptus albens*), Cherry Ballart (*Exocarpos cupressiformis*), Austral Indigo (*Indigofera australis*), and Twin-flower Beard Heath (*Leucopogon fletcheri*). Both sites occur on skeletal soils developed on Snowy River volcanics. Plants tend to be most abundant in crevices and on ledges of the steepest, most exposed cliff-lines. In flatter areas this species tends to be sparser.

Life history and ecology

There have been no specific ecological studies of Narrow-leaf Bent-grass.

Conservation status

National conservation status

Narrow-leaf Bent-grass is listed as vulnerable under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

Long term objective

To ensure that the Narrow-leaf Bent-grass 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. Conduct detailed field and desk top surveys including identification of the area and extent of the population; estimates of the number, size and structure of the population; and inference or estimation of population change.	<ul style="list-style-type: none">Updated records on all state databases (Flora Information System, VROTPop and Herbarium).Target populations accurately mapped.	DSE
2. Assess habitat characteristics and/or	<ul style="list-style-type: none">Ecological requirements identified for	DSE

Victorian conservation status

Narrow-leaf Bent-grass has been 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

Site protection

The Ballantyne Hills section of the Alpine National Park is an isthmus of national park surrounded on almost all sides by freehold land.

Road works

A track currently cuts across the ridgeline close to the Ingeegoodbee Track population, dividing it into two subpopulations. There appears to be little reason for further development of the track.

Goat Browsing

Many plants are on more-or-less sheer and fairly unvegetated cliffs. Plants on less steep slopes, however, could be goat browsed. There was little evidence of herbivore browsing in November 2002 (N. Walsh pers. obs.).

Previous management action

- Narrow-leaf Bent-grass was one of the subjects of a study of recovery of threatened plants following the 2003 wildfires. Two hundred and thirty plants were recorded at Suggan Buggan, but not found on the Ingeegoodbee Track.
- In May 2005, the Victorian Government announced that licences to graze cattle in the Alpine National Park would not be renewed.

	condition. Accurately survey known habitat, and collect and analyse floristic and environmental information relevant to community ecology and condition.	<ul style="list-style-type: none"> the completion of essential life history stages, recruitment and dispersal. Core habitat mapped. 	
3.	Assess threats. Determine impacts from grazing.	<ul style="list-style-type: none"> Measures adopted to protect plants from grazing if it is deemed to be a threat. 	DSE, Parks Victoria
4.	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
5.	Identify disturbance regimes to maintain habitat or promote regeneration and recruitment.	<ul style="list-style-type: none"> Preparation of management prescriptions for ecological burning at Ballantyne Hills and Ingeegoodbee Track sites. 	DSE, Parks Victoria
6.	Map populations. Accurately map all populations.	<ul style="list-style-type: none"> Location and land tenure confirmed. 	DSE, Parks Victoria
7.	Undertake research to identify key biological functions. Evaluate current reproductive and/or 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 and determine stimuli for vegetative regeneration.	<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
8.	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, Parks Victoria

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

<i>Action</i>	<i>Targets</i>	<i>Responsible</i>
9. Erect / maintain signs to restrict or discourage access. Control threats from road works by installing signs.	<ul style="list-style-type: none"> Measurable seedling recruitment / vegetative regeneration and a measurable reduction in plant mortality at Ballantyne Hills and Ingeegoodbee Track sites. No sites to be damaged by road / track maintenance or construction. Note that this species may be naturally rare and so controlling threats may not necessarily result in increases in population sizes or recruitment. 	Parks Victoria DSE

10. Liaise with stakeholder groups. Control threats from road works by supervising road contractors.	<ul style="list-style-type: none"> ▪ Measurable seedling recruitment / vegetative regeneration and a measurable reduction in plant mortality at Ballantyne Hills and Ingeegoodbee Track sites. ▪ Supervise contractors when works are carried out at the Ingeegoodbee Track site. 	Parks Victoria
11. Establish cultivated plants <i>ex situ</i> to safeguard from the unforeseen destruction of the wild population.	<ul style="list-style-type: none"> ▪ Development of effective propagation and cultivation techniques. ▪ At least 30 mature plants in cultivation. 	DSE, Royal Botanic Gardens

Objective III To increase the number of populations or individuals

<i>Action</i>	<i>Targets</i>	<i>Responsible</i>
12. 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
13. Determine seed viability.	<ul style="list-style-type: none"> ▪ Seed viability determined. 	Royal Botanic Gardens

Objective IV To increase community awareness and support

<i>Action</i>	<i>Targets</i>	<i>Responsible</i>
14. Involve community groups and volunteers in recovery activities.	<ul style="list-style-type: none"> ▪ Opportunities for involvement identified, promoted and supported. 	DSE

References

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