

Approved Conservation Advice  
(s266B of the *Environment Protection and Biodiversity Conservation Act 1999*)

**Approved Conservation Advice for**  
***Deyeuxia drummondii* (Drummond's Grass)**

This Conservation Advice has been developed based on the best available information at the time this Conservation Advice was approved; this includes existing plans, records or management prescriptions for this species.

**Description**

*Deyeuxia drummondii*, Family Poaceae, also known as Drummond's Grass, is a smooth, densely tufted perennial grass growing up to 25 cm tall. It has flat, soft, and fairly smooth green leaves, up to 5 mm wide and 8 cm long. The leaf sheath is smooth with a membranous ligule, 2–3 mm long with a lacerated apex. There are approximately 30–40 inflorescences per plant and each inflorescence is a dense and spike-like purple head, 20–70 mm long, held on a long stem which enables it to protrude beyond the leaves. The spikelets, 5–8 mm long, are solitary and hold a single flower that bears a slightly projecting bristle (awn) with bisexual florets. Flowering occurs from December to January. *Deyeuxia drummondii* is smaller in stature than other native Western Australian grasses, with the lemma only half as long as the lower glume (Robinson & Coates, 1995; Brown et al., 1998).

**Conservation Status**

Drummond's Grass is listed as **endangered**. This species is eligible for listing as endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act) as, prior to the commencement of the EPBC Act, it was listed as endangered under Schedule 1 of the *Endangered Species Protection Act 1992* (Cwlth). The species is also listed as declared rare flora under the *Wildlife Conservation Act 1950* (Western Australia).

**Distribution and Habitat**

Drummond's Grass is endemic to the Albany district of Western Australia, where it is known from nine populations in the Stirling Range National Park. It grows in sand patches on rocky ledges of mountain summits, up to 900 metres above sea level (Brown et al., 1998; Cochrane & Barrett, 2001). The total population is estimated to be 540 mature plants and all populations occur within conservation reserve. The extent of occurrence is approximately 52 km<sup>2</sup>. There are insufficient data to determine the area of occupancy. Two populations have been observed to increase in size, two have decreased in size, and one has remained stable; there are insufficient data to determine any population size trends for the other four populations. Seven of the populations are in a healthy condition and two are in a moderate condition (DEC 2008).

Drummond's Grass was collected in 1854 and 1867 and was presumed extinct until rediscovered in 1995 (DEC, 2008). It occurs within the South Coast (Western Australia) Natural Resource Management Region.

The distribution of this species overlaps with the "Eastern Stirling Range Montane Heath and Thicket" EPBC Act-listed threatened ecological community.

**Threats**

The main potential threat to Drummond's Grass is inappropriate fire regimes. Too frequent fire occurring before plants reach maturity may lead to localised extinction. Other potential threats to the species include disease and grazing. It is unlikely that Drummond's Grass is susceptible to dieback caused by *Phytophthora* spp, but other plants in the species' associated habitat are highly susceptible and so dieback could potentially negatively impact on

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Drummond's Grass habitat. Some grazing has thought to be observed at one population (Phillimore et al., 2001; DEC, 2008).

### **Research Priorities**

Research priorities that would inform future regional and local priority actions include:

- Design and implement a monitoring program or, if appropriate, support and enhance existing programs.
- Undertake survey work in suitable habitat and potential habitat to locate any additional populations/occurrences/remnants.
- Study the soil seed bank dynamics and the effect of disturbance (such as fire), competition, grazing and rainfall on recruitment and seedling survival (Phillimore et al., 2001).
- Investigate this species pollination biology and determine reproductive strategies, phenology and seasonal growth (Phillimore et al., 2001).
- Investigate population genetic structure, levels of genetic diversity and minimum viable population size (Phillimore et al., 2001).
- Investigate the impacts of dieback disease and control techniques (Phosphite) on Drummond's Grass and its habitat (Phillimore et al., 2001).

### **Regional and Local Priority Actions**

The following regional and local priority recovery and threat abatement actions can be done to support the recovery of Drummond's Grass.

#### **Habitat Loss, Disturbance and Modification**

- Monitor known populations to identify key threats.
- Monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary.
- Identify populations of high conservation priority.
- Minimise adverse impacts from land use at known sites.
- Control access routes to suitably constrain public access to known sites on public land.

#### **Fire**

- Develop and implement a suitable fire management strategy for Drummond's Grass.
- Identify appropriate intensity and interval of fire to promote seed germination.
- Provide maps of known occurrences to local and state Rural Fire Services and seek inclusion of mitigative measures in bush fire risk management plans, risk register and/or operation maps.

#### **Diseases, Fungi and Parasites**

- Develop and implement suitable hygiene protocols to protect habitat at known sites from potential outbreaks of dieback caused by *Phytophthora cinnamomi*.
- If necessary, implement appropriate management actions to minimise the adverse impacts of existing *Phytophthora cinnamomi* infestations.

#### **Trampling, Browsing or Grazing**

- Manage known sites to ensure appropriate grazing regimes occur.
- Where appropriate manage total grazing pressure at important sites through exclusion fencing or other barriers.

#### **Conservation Information**

- Raise awareness of Drummond's Grass within the local community.
- Maintain liaison with private landholders and managers of land on which populations occur.

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#### Enable Recovery of Additional Sites and/or Populations

- Undertake appropriate seed collection and storage.
- Investigate options for linking, enhancing or establishing additional populations.
- Implement national translocation protocols (Vallee et al., 2004) if establishing additional populations is considered necessary and feasible.

This list does not necessarily encompass all actions that may be of benefit to Drummond's Grass, but highlights those that are considered to be of highest priority at the time of preparing the conservation advice.

#### Existing Plans/Management Prescriptions that are Relevant to the Species

- Declared Rare and Poorly Known Flora in the Albany District (Robinson & Coates, 1995),
- Drummond's Grass Interim Recovery Plan 2001-2004 (Phillimore et al. 2001), and
- Threat Abatement Plan for Dieback Caused by the Root-Rot Fungus *Phytophthora cinnamomi* (EA, 2001), as habitat where this species occurs is susceptible to this fungus.

These prescriptions were current at the time of publishing; please refer to the relevant agency's website for any updated versions.

#### **Information Sources:**

Brown, A, Thomson-Dans, C & Marchant, N (eds) 1998, *Western Australia's Threatened Flora*, Department of Conservation and Land Management, Western Australia.

Cochrane, A & Barrett, S 2001, 'Drummond's Grass', *Landscape*, vol. 16, no. 2, pp 43-47.

Department of Environment and Conservation (DEC) 2008, Records held in DEC's Declared Rare Flora Database and rare flora files. Department of Environment and Conservation, Western Australia.

Environment Australia (EA) 2001, *Threat Abatement Plan For Dieback caused by the root-rot fungus Phytophthora cinnamomi*, Environment Australia, viewed 15 September 2008, <<http://www.environment.gov.au/biodiversity/threatened/publications/tap/phytophthora/pubs/phytophthora.pdf>>.

Phillimore, R, Evans, R & Brown, A 2001, *Drummond's Grass (Deyeuxia drummondii)*, Interim Recovery Plan 2001-2004, Department of Conservation and Land Management, Western Australia.

Robinson, CJ & Coates, DJ 1995, *Declared Rare and Poor Known Flora in the Albany district*, Western Australia Wildlife Management Program no. 20, Department of conservation and Land Management, Western Australia.

Vallee, L, Hogbin, T, Monks, L, Makinson, B, Matthes, M & Rossetto, M 2004, *Guidelines for the Translocation of Threatened Plants in Australia* (2<sup>nd</sup> ed.), Australian Network for Plant Conservation, Canberra.