

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

**Approved Conservation Advice for**  
***Gastrolobium lehmannii* (Cranbrook Pea)**

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**

*Gastrolobium lehmannii*, Family Papilionaceae / Fabaceae, also known as Cranbrook Pea, is an erect, domed shrub, growing to 1.5 m high, with soft hairy branches. The leaves are oblong to elliptic, 25–50 mm long, 12–22 mm wide, the lower surface is densely tomentose. The inflorescences contain 6–10 flowers. The pea flowers are orange, yellow and red, the standard about 11–15 mm long and 10 mm wide. The pod is sessile, ovoid, slightly compressed, about 7 mm long, and densely hairy (Brown et al., 1998; Chandler et al. 2002). Flowering occurs during September to October. Little is known about the levels of flower and fruit production, pollination mechanisms or the requirements for flower and seed production. It has been noted that flowering time varies between populations, with many fruits aborting part way through development in some seasons. There are usually two seeds per fruit, but commonly only one seed is fertile, while the other is small and shriveled. Fruiting usually occurs in November to December (Chandler et al., 2002).

**Conservation Status**

Cranbrook Pea is listed as **vulnerable**. This species is eligible for listing as vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act) as, in 2006, the Minister considered the Threatened Species Scientific Committee's (TSSC) advice under section 189 of the EPBC Act and amended the list under section 184 to include Cranbrook Pea. The TSSC determined that this species met Criterion 2 of their eligibility criteria (TSSC, 2006). The species is also listed as declared rare flora under the *Wildlife Conservation Act 1950* (Western Australia).

**Distribution and Habitat**

Cranbrook Pea is endemic to Western Australia and is known from six fragmented populations near Tunney, approximately 120 km northwest of Albany. The combined total number of mature plants declined from approximately 1600 in 2000 to approximately 980 in 2007. The extent of occurrence for Cranbrook Pea is 300 km<sup>2</sup> and the species has an area of occupancy of 1 km<sup>2</sup>. All six known populations occur either on road verges, private property or gravel reserves (TSSC, 2006; DEC, 2008).

Cranbrook Pea occurs in red and brown loam and gravel with three populations occurring on sloping topography, while the remaining three occur on breakaways and hilltop. All known populations occur in low open woodland of *Eucalyptus marginata* and *E. falcata* with *Hakea lissocarpha*, *Austrostipa* spp. and *Austrodanthonia* spp. (Chandler et al., 2002). This species occurs within the South Coast and South West (Western Australia) Natural Resource Management Regions.

The distribution of this species is not known to overlap with any EPBC Act-listed threatened ecological community.

### **Threats**

The main identified threats to Cranbrook Pea include grazing by livestock and rabbits (*Oryctolagus cuniculus*), clearing by landowners, road maintenance, and competition from weeds. Fencing has been installed at three populations to exclude grazing by stock, and rare flora markers are erected at the two road verge populations (DEC, 2008).

The main potential threats to Cranbrook Pea include inappropriate fire regimes, gravel extraction and disease. Cranbrook Pea occurs in fire prone habitat and field observations have indicated that the species does not regenerate well after fire. A sooty black fungal disease is present on two of the known populations; however the long term impact of the disease is unknown (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.
- More precisely assess population size, distribution, ecological requirements and the relative impacts of threatening processes.
- Undertake survey work in suitable habitat and potential habitat to locate any additional populations/occurrences/remnants.
- Assess any adverse impacts from the black sooty mould occurring on plants and determine options for control, if necessary.
- Identify appropriate intensity and interval of fire for this species.

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

The following regional and local priority recovery and threat abatement actions can be done to support the recovery of Cranbrook Pea.

#### **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.
- Ensure road widening and maintenance activities (or development activities involving substrate or vegetation disturbance) in areas where Cranbrook Pea occurs do not adversely impact on known populations.
- Suitably control and manage access on private land.
- Minimise adverse impacts from land use at known sites.
- Investigate formal conservation arrangements, management agreements and/or covenants on private land, and for crown and private land investigate inclusion in reserve tenure if possible.

#### **Invasive Weeds**

- Develop and implement a management plan for the control of wild oats (*Avena fatua*) in the region.
- Ensure chemicals or other mechanisms used to eradicate weeds do not have a significant adverse impact on Cranbrook Pea.
- Identify and remove weeds in the local area, which could become a threat to Cranbrook Pea, using appropriate methods.
- Manage sites to prevent introduction of invasive weeds, which could become a threat to the species, using appropriate methods.

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

- Develop and implement a management plan for the control and eradication of rabbits (*Oryctolagus cuniculus*) in the region.

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

#### Fire

- Implement an appropriate fire management regime for local populations.
- 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.

#### Conservation Information

- Raise awareness of Cranbrook Pea within the local community through the use of fact sheets and the organising of field days.
- Maintain liaison with private landholders and managers of land on which populations occur.

#### Diseases, Fungi and Parasites

- Implement measures to control mould, if necessary.

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

- Investigate options for linking, enhancing or establishing additional populations.
- Undertake appropriate seed collection and storage.
- 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 Cranbrook Pea, 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 Katanning District (Graham & Mitchell, 2001), and
- Threat Abatement Plan for Competition and Land Degradation by Feral Rabbits (EA, 1999).

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.

Chandler, GT, Crisp, MD, Cayzer, LW & Bayer, RJ 2002, 'Monograph of Gastrolobium (Fabaceae: Mirbelieae)', *Australian Systematic Botany*, vol. 15, no. 5, p. 705.

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

Environment Australia (EA) 1999, *Threat Abatement Plan for Competition and Land Degradation by Feral Rabbits*, Biodiversity Group, viewed 30 May 2008,

<<http://www.environment.gov.au/biodiversity/threatened/publications/tap/rabbits/index.html>>.

Graham, M & Mitchell, M. 2001, *Declared Rare Flora in the Katanning District*, Western Australia Wildlife Management Program No. 25, Department of Conservation and Land Management, Western Australia.

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Threatened Species Scientific Committee (TSSC) 2006, *Commonwealth Listing Advice on Gastrolobium lehmannii*, Department of Environment and Heritage, viewed 29 May 2008, <<http://www.environment.gov.au/biodiversity/threatened/species/pubs/gastrolobium-lehmannii-listing.pdf>>.

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.