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

Approved Conservation Advice for *Gastrolobium appressum* (Scale-leaf Poison)

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 appressum, Family Fabaceae, also known as Scale-leaf Poison, is a small woody shrub, growing up to 50 cm high, with young branches covered with fine white hairs. It has pale green leathery leaves which have short stalks and end in a fine, sometimes slightly hooked point. Leaves are hairless, up to 1 cm long and 0.3 cm wide, and are arranged in whorls of three. They are closely pressed against the stem and often overlap the adjacent leaf whorls, so that the stem is hidden. There are no stipules at the base of the short leaf stalk. The typical pea flowers are borne above the leaves in several whorls of three, clustered at the ends of the branchlets. They are pea flower-shaped with a lobed, 2-lipped calyx. The three lobes of the lower lip are lanceolate in shape and pointed at their tips. The petals are orange-yellow and reddish-purple. The fruit is a hairy pod containing two hard seeds. The flowering period is from September to November (Brown et al., 1998).

Conservation Status

Scale-leaf Poison 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, prior to the commencement of the EPBC Act, it was listed as vulnerable under Schedule 1 of the *Endangered Species Protection Act 1992* (Cwlth). Scale-leaf Poison is also listed as declared rare flora under the *Wildlife Conservation Act 1950* (Western Australia).

Distribution and Habitat

Scale-leaf Poison is known to occur between the townsites of Watheroo and Marchagee in the Moora district of Western Australia's wheatbelt region. It is known from 14 populations, seven of which are split into two subpopulations giving a total of 21 known locations. Two of these locations are on a railway reserve, one is on conservation estate, seven are located on private property and 11 are on road verges. Four of these 14 populations had declined to zero in 2007, three of which occur on private property and one on a railway reserve.

Ten locations have declined in size, four populations on road verges have increased in number and two have remained unchanged. There is insufficient recorded information to determine an overall population trend. In 2007, an estimated 1200 Scale-leaf Poison plants were known: the largest population had 240 plants.

The area of occupancy is approximately 0.6 km² (based on 15 locations). The habitat condition is poor or disturbed for 11 locations (DEC, 2008).

This species occurs on slopes or crowns of small hills as well as on sand plains. It grows in quartz gravel and white or yellow sand, in vegetation associations that include thicket, open low scrub over heath, and open dwarf scrub (Brown et al., 1998). This species occurs within the Northern Agricultural (Western Australia) Natural Resource Management Region.

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

Threats

The main identified threats to Scale-leaf Poison include weeds at 17 locations and road works and road grading at 10 locations. Populations occurring on private property and road verges are threatened by grazing (DEC, 2008).

The main potential threats to the species include inappropriate fire regimes (including prescribed burning); land clearing; fire break maintenance; mining; and it is presumed to be susceptible to dieback caused by *Phytophthora cinnamomi* (Patrick & Brown, 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.
- More precisely assess population size, distribution, ecological requirements and the relative impacts of threatening processes.
- Undertake seed germination and/or vegetative propagation trials to determine the requirements for successful establishment.
- Conduct research into the life history and fire response of this species (Patrick & Brown, 2001).
- Undertake survey work in suitable habitat and potential habitat to locate any additional populations/occurrences/remnants. Target sites include uncleared private land and reserves adjacent to known populations and the nature reserve where this species is known to occur (Patrick & Brown, 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 Scale-leaf Poison.

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.
- Control access routes to suitably constrain public access to known sites on public land.
- Suitably control and manage access on private land.
- Minimise adverse impacts from land use at known sites.
- Ensure road widening and firebreak maintenance activities (or other infrastructure or development activities) involving substrate or vegetation disturbance in areas where Scale-leaf Poison occurs do not adversely impact on known populations.
- Ensure rare flora marker pegs are in place at all road and rail reserve populations (Patrick & Brown, 2001).
- Investigate formal conservation arrangements, management agreements and covenants on private land, and for crown and private land investigate inclusion in reserve tenure if possible.

Trampling, Browsing or Grazing

- Develop and implement a stock management plan for roadside verges and travelling stock routes.
- Prevent grazing pressure at known 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.

Diseases, Fungi and Parasites

- Ensure *Phytophthora* dieback hygiene procedures are carried out at all populations as this species is presumed to be susceptible (Patrick & Brown, 2001).

Invasive Weeds

- Identify and remove weeds in the local area, which could become a threat to Scale-leaf Poison, using appropriate methods.
- Manage sites to prevent introduction of invasive weeds, which could become a threat to the species, using appropriate methods.

Conservation Information

- Raise awareness of Scale-leaf Poison within the local community and maintain liaison with landowners/managers.

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 Scale-leaf Poison, 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

- Wildlife Management Program No 28: Declared Rare and Poorly Known Flora in the Moora District (Patrick & Brown, 2001), and
- Threat Abatement Plan for Dieback caused by the root-rot fungus (*Phytophthora cinnamomi*) (EA, 2001).

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.

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

Environment Australia (EA) 2001, *Threat Abatement Plan for Dieback caused by the root-rot fungus (*Phytophthora cinnamomi*)*, Biodiversity Group, viewed 13 June 2008, <http://www.environment.gov.au/biodiversity/threatened/publications/tap/phytophthora/pubs/phytophthora.pdf>.

Patrick, S & Brown, A 2001, *Declared Rare and Poorly Known Flora in the Moora District, Wildlife Management Program No 28*, Department of Land and Conservation, Western Australia.

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