

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

**Approved Conservation Advice for**  
***Daviesia pseudaphylla* (Stirling Range Daviesia)**

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**

*Daviesia pseudaphylla*, Family Papilionaceae / Fabaceae, also known as Stirling Range Daviesia, is a low spreading, spindly shrub, growing to 30 cm wide by 1.3 m tall. Its stem bears phyllodes (flattened leaf stalks) that grow up to 3 cm long by up to 1.5 mm wide, with their edges curving gently upwards. The standard (largest petal) is up to 10 mm long and yellow-orange on the sides. A dark purple colour is also seen with a central three-lobed yellow streak on the top. Also evident is a dark red keel and dark red wings, up to 8 mm long. Inflorescences are comprised of two or three flowers, with flowering occurring from July to September (Brown et al., 1998).

**Conservation Status**

Stirling Range Daviesia 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**

Stirling Range Daviesia is endemic to Western Australia, where it is known from two populations, approximately 1.5 km apart, within Stirling Range of Stirling Range National Park. The number of mature, flowering plants that constitute these populations is estimated to be 8000. Only one of the two populations had an area of occupancy recorded, which totalled approximately 0.1 km<sup>2</sup>. This species occurs within the South Coast (Western Australia) Natural Resource Management Region.

Stirling Range Daviesia inhabits gently sloping areas of open mallee and heath, with a substrate of shallow stony clay over schist or sandy loam over sandstone and quartz gravel. This species can be seen growing with Jarrah (*Eucalyptus marginata*), *Beaufortia anisandra*, *Hakea cucullata* and *Xanthorrhoea preisii* (Robinson & Coates, 1995; Brown, et al., 1998; Phillimore & Brown, 2001; DEC, 2008).

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

**Threats**

The main identified threat to Stirling Range Daviesia is inappropriate fire regimes, and one population is threatened by grazing. It is known that the species is sensitive to fire in the vegetative and flowering phase and too frequent fire would deplete the soil seed bank (Phillimore & Brown, 2001). Many adult plants were killed during fire events in 1991 and 2001.

The main potential threat to the species is dieback caused by *Phytophthora cinnamomi*. This is a major threat to Stirling Range Daviesia as habitat surrounding the populations is infected with dieback and many deaths are likely to be attributed to this (Phillimore & Brown, 2001).

### **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.
- Undertake seed germination and/or vegetative propagation trials to determine the requirements for successful establishment.

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

The following regional and local priority recovery and threat abatement actions can be done to support the recovery of Stirling Range Daviesia.

#### **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.
- Control access routes to suitably constrain public access to known sites on public land.
- Minimise adverse impacts from land use at known sites.

#### **Fire**

- Develop and implement a suitable fire management strategy for Stirling Range Daviesia.
- 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.

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

- If populations are found outside Stirling Range National Park minimise grazing pressure through exclusion fencing or other barriers.

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

- Implement suitable hygiene protocols to protect known populations from further outbreaks of dieback caused by *Phytophthora cinnamomi*.
- If necessary, implement appropriate management actions to minimise the adverse impacts of existing *Phytophthora cinnamomi* infestations.

#### **Conservation Information**

- Raise awareness of Stirling Range Daviesia within the local community. Provide fact sheets and identification information to visitors entering the Stirling Range National Park.

#### **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 Stirling Range Daviesia, but highlights those that are considered to be of highest priority at the time of preparing the conservation advice.

This Conservation Advice was approved by the Minister / Delegate of the Minister on:  
16/12/2008

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

- Threat Abatement Plan for Dieback caused by the root-rot fungus *Phytophthora cinnamomi* (EA, 2001),
- Stirling Range and Porongurup National Parks Management Plan 1999–2009 (CALM, 1999),
- Declared Rare and Poorly Known Flora in the Albany District (Robinson & Coates, 1995), and
- Stirling Range *Daviesia* (*Daviesia pseudaphylla*) Interim Recovery Plan 2001–2004 (Phillimore & Brown, 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 Conservation and Land Management (CALM) 1999, *Stirling Range and Porongurup National Parks Management Plan 1999-2009*, National Parks and Nature Conservation Authority, Perth, 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>>.

Phillimore, R & Brown, A 2001, *Stirling Range Daviesia* (*Daviesia pseudaphylla*) *Interim Recovery Plan 2001-2004*, Department of Conservation and Land Management, WA.

Robinson, CJ & Coates, DJ 1995, *Declared Rare and Poorly Known Flora in the Albany District*, *Wildlife Management Plan No 20*, Department of Conservation and Land Management, WA.

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.