

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

**Approved Conservation Advice for**  
***Jacksonia* sp. Collie (C.J.Koch 177) (Collie Jacksonia)**

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**

*Jacksonia* sp. Collie (C.J.Koch 177), Family Fabaceae, also known as Collie Jacksonia, is an erect, densely branching shrub up to 2 m high by 1 m wide, not resinous, with sharply pointed phyllodes (flattened leaf stalks). The branches are grey-green, angular and prominently ribbed. The buds are dusty pink with hairs of two types: dense, appressed, straight, peltate, white hairs approximately 0.1 mm long, and scattered, spreading, straight, simple, white hairs approximately 0.4 mm long. The standard is yellow-orange with red markings in the throat and the wings are also yellow-orange but without markings. The keel is pale apricot to yellow-green without markings. The fruit is woody, without horizontal cracks, with dense, straight, simple, white external hairs approximately 0.8 mm long that last until next season's flowering. Flowering occurs from November to December. Collie Jacksonia differs from its close relatives in having strongly angular buds with velvety hairs, and having the largest flowers (Brown et al. 1998; Chappill et al., 2007).

*Jacksonia* sp. Collie (C.J.Koch 177) differs from *Jacksonia epiphyllum* in having fine rather than long coarse hairs on the calyx, smaller bracteoles and longer pedicels (Brown et al. 1998; Chappill et al., 2007). This species is now known as *Jacksonia velveta* (Chappill et al., 2007).

**Conservation Status**

Collie Jacksonia 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). Collie Jacksonia is also listed as declared rare flora under the *Wildlife Conservation Act 1950* (Western Australia), as *Jacksonia velveta* ms.

**Distribution and Habitat**

Collie Jacksonia is endemic to south-west Western Australia, where it is known from 11 subpopulations in the Collie, Darkan and Woodanilling areas. Four occur in State Forest, two in a nature reserve, three on road reserves and two on private property. The number of plants is approximately 400 with an extent of occurrence of 1700 km<sup>2</sup> and an area of occupancy of at least 0.03 km<sup>2</sup>. Insufficient data are available to determine trends in occupancy or population numbers (DEC, 2008). This species occurs within the South West (Western Australia) Natural Resource Management Region.

Collie Jacksonia grows in brown to red gravelly loam over laterite, on slight slopes in low woodland areas sometimes in association with Jarrah (*Eucalyptus marginata*), Holly-leaved Banksia (*Banksia ilicifolia*) and Sheoak (*Allocasuarina*) (Brown et al., 1998; DEC, 2008).

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

### **Threats**

The main identified threats to Collie Jacksonia are road and firebreak maintenance; gravel extraction; powerline and water pipe maintenance; weeds; and grazing. Road and firebreak maintenance activities are a threat to populations located along roads, firebreaks and in road drains. Maintenance activities include grading of roads and drains, chemical spraying, the mowing of roadside vegetation and maintenance of utilities. Grazing by kangaroos and sheep is a threat to populations located on private property and road reserves. Veldt grass (*Ehrharta* sp.) has invaded a road reserve where the species occurs (DEC, 2008).

The main potential threats to Collie Jacksonia include inappropriate fire regimes and forest operations. It is thought that the species is a disturbance opportunist and may respond to fire. The species germinates from seed following fire, however, time taken to reach maturity is unknown and too frequent fire would deplete the soil stored seed bank and lead to localised extinction (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 trials to determine the requirements for successful establishment.
- Undertake survey work in suitable habitat and potential habitat to locate any additional populations/occurrences/remnants.

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

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

#### **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.
- Suitably control and manage access on private land.
- Identify populations of high conservation priority.
- Minimise adverse impacts from land use, such as gravel extraction and forest operations, at known sites.
- Control access routes to suitably constrain public access to known sites on public land.
- Ensure road and firebreak widening and utilities maintenance activities (or other infrastructure or development activities) involving substrate or vegetation disturbance in areas where Collie Jacksonia occurs do not adversely impact on known populations.
- 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**

- Ensure chemicals or other mechanisms used to eradicate weeds do not have a significant adverse impact on Collie Jacksonia.
- Identify and remove weeds in the local area, which could become a threat to Collie Jacksonia, using appropriate methods.

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16/12/2008

- Manage sites to prevent introduction of invasive weeds, which could become a threat to the species, using appropriate methods.

#### Fire

- Develop and implement a suitable fire management strategy for Collie Jacksonia.
- 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.

#### Trampling, Browsing or Grazing

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

#### Conservation Information

- Raise awareness of Collie Jacksonia within the local community. Fact sheets and the organisation of field days may benefit this species.
- Maintain liaison with private landholders and managers of land on which populations occur.
- Install threatened flora markers.

#### 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 Collie Jacksonia, 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 Central Forest Region (Williams et al., 2001).

This prescription was 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.

Chappill, J, Wilkins, C & Crisp, M 2007, 'Taxonomic Revision of *Jacksonia* (Leguminosae: Mirbelieae)', *Australian Systematic Botany*, vol. 20, pp. 473-623.

Department of Environment and Conservation (DEC) 2008, Records held in DEC's Declared Flora Database and rare flora files. Department of Environment 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* (2<sup>nd</sup> ed.), Australian Network for Plant Conservation, Canberra.

Williams, K, Horan, A, Wood, A & Webb, A 2001, *Declared Rare and Poorly Known Flora in the Central Forest Region*, Western Australia Wildlife Management Program No. 33, Department of Conservation and Land Management, Western Australia.