

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

**Approved Conservation Advice for**  
***Dryandra anatona* (Cactus *Dryandra*)**

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**

*Dryandra anatona*, Family Proteaceae, now known as *Banksia anatona* (CHAH, 2007) and also known as Cactus *Dryandra*, grows to 5 m tall and has one main stem with short lateral branches. The branches are covered with felty hairs and the leaves, which have wavy edges with 10–12 teeth on each side, are hairy above but become hairless over time. The underside of the leaf has a white felty covering. The flattened leaf blade is 3–7 cm long and 12–22 mm wide. The inflorescence is terminal or on short lateral branchlets and composed of about 170 flowers. Cactus *Dryandra* flowers between January and June (Brown et al., 1998).

*Dryandra anatona* has an affinity to Prickly *Dryandra* (*Dryandra falcata*), however this species is hairier, with longer (15–17 mm) floral bracts and very different fruit.

**Conservation Status**

Cactus *Dryandra* 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**

Cactus *Dryandra* is endemic to southern Western Australia, where it is known from four extant populations and one extinct population. This species is only known from Stirling Range National Park. All populations of Cactus *Dryandra* are in a poor to moderate condition. One population has approximately 4000 plants and the other populations have a combined total of approximately 100 plants. This species has been severely impacted by dieback caused by *Phytophthora cinnamomi* and has declined rapidly (Phillimore & Brown, 2001). The area of occupancy is currently unknown and the extent of occurrence is approximately 365 km<sup>2</sup> (Phillimore & Brown, 2001).

Cactus *Dryandra* grows in silty sand over clayey gravel (Brown et al., 1998). It grows on slopes in sandy soil over gravelly shale, in thick kwongan vegetation (George, 1996). This species occurs within the South Coast (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 threat to Cactus *Dryandra* is dieback caused by *Phytophthora cinnamomi*. The disease is a serious threat to all known populations as they are all infected and many deaths have occurred as a result. Aerial canker (including the fungi *Botryosphaeria ribis* and *Diplodina* sp.) has also been visually identified at one population (Phillimore & Brown, 2001).

The main potential threats to Cactus *Dryandra* are inappropriate fire regimes and grazing. Inappropriate fire regimes may adversely affect long-term viability of populations. Fires that

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occurred in 1991 and 2000 killed many adult plants. If too frequent fire occurs, there is significant risk of depleting the soil seed store (Phillimore & Brown, 2001). Grazing has been recorded at one population. The specific animal causing this damage is unknown; however it is thought to be a quokka (*Setonix brachyurus*) (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.
- Conduct further research into ways to prevent the spread of dieback caused by *Phytophthora cinnamomi* in Cactus Dryandra populations.

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

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

#### **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.
- If populations are found outside Stirling Range National Park, 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.

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

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

#### **Fire**

- Develop and implement a suitable fire management strategy for Cactus Dryandra.
- 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**

- Implement suitable hygiene protocols to prevent the spread of dieback caused by *Phytophthora cinnamomi*.
- Implement appropriate management actions to minimise the adverse impacts of existing *Phytophthora cinnamomi* infestations, including applying phosphite on selected populations.
- Develop and implement management actions to minimise adverse impacts from Aerial Canker.

#### **Conservation Information**

- Raise awareness of Cactus Dryandra within the local community.

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

- Undertake appropriate seed collection and storage.

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- 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 *Cactus Dryandra*, 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**

- Stirling Range and Porongurup National Parks Management Plan (CALM, 1994),
- Threat Abatement Plan for Dieback Caused by the Root-rot Fungus *Phytophthora cinnamomi* (Environment Australia, 2001),
- *Dryandra anaton*a Interim Recovery Plan 2001–2004 (Phillimore & Brown, 2001), and
- Declared rare and Poorly Known Flora in the Albany District (Robinson & Coates, 1995).

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.

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Environment Australia 2001, *Threat Abatement Plan for Dieback Caused by the Root-rot Fungus Phytophthora cinnamomi*, viewed 18 June 2008, <<http://www.environment.gov.au/biodiversity/threatened/publications/tap/phytophthora/index.html>>.

George, AS 1996, 'New taxa and a new infrageneric classification in *Dryandra* R. Br. (Proteaceae; Grevilleoideae), *Nuytsia*, vol. 10, no. 3, pp. 313-408.

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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.