

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

**Approved Conservation Advice for**  
***Dryandra aurantia* (Orange 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 aurantia*, Family Proteaceae, now known as *Banksia aurantia* (CHAH, 2007) and also known as Orange Dryandra, is a prostrate clonal shrub with multiple underground stems, covered with pale rust-coloured bracts. It is distinguished by these underground stems, its broadly triangular leaf lobes and small flowers. Up to ten clumps of leaves can form a plant 2 m wide. The leaves have 18–28 triangular lobes per side, are 12–25 cm long and 2.5–4.5 cm wide, and are pitted on the underside. There are approximately 80 pale orange flowers, 8–10 mm long, in each terminal head, with flowering occurring in April (Brown et al., 1998).

Orange Dryandra is related to *Dryandra porrecta* but the former has more numerous flowers per head, an orange floral whorl that is very woolly above the base and an autumn flowering period (Brown et al., 1998). In recent years Orange Dryandra has been confused with populations of *Dryandra* sp. Boyup Brook and *Dryandra tenuifolia*, both of which have a more southern distribution (DEC, 2008).

**Conservation Status**

Orange 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). This species is also listed as declared rare flora under the *Wildlife Conservation Act 1950* (Western Australia).

**Distribution and Habitat**

Orange Dryandra is endemic to Western Australia where it is known from four extant and one extinct population within Wandoo National Park. An estimated number of 1890 ‘clumps’ of Orange Dryandra make up these five populations; however it should be noted that counting the number of individuals in each population is nearly impossible due to the myriad of multi-stemmed clumps from the interconnected underground rhizomes. Therefore, this number is very subjective and may not be a true representation of the actual number of plants. Most populations appear to be stable, with no recent alteration in their size as new clumps are emerging at the same rate as old clumps are declining. A fire research plot at one of the populations has seen an increase in the number of clumps, from 12 to 64 in the nine years since a controlled burn (DEC, 2008). The extent of occurrence is estimated to be 4.5 km<sup>2</sup> and the total area of occupancy is undetermined. This species occurs within the Avon (Western Australia) Natural Resource Management Region.

Orange Dryandra inhabits low lying seasonally moist areas of grey to white sands. The associated vegetation includes an open low heathland of Holly Pea (*Jacksonia floribunda*) and *Melaleuca* spp., to very open *Banksia* woodland (Brown et al., 1998; DEC, 2008).

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

### **Threats**

The main threat to Orange Dryandra is lack of fire. The recent disappearance of one small population is likely due to an inappropriate fire regime. This species regenerates vigorously after fire and autumn fires, no more than every ten years, are required for the species to regenerate successfully (DEC, 2008). Orange Dryandra is thought to be naturally rare due its specific habitat requirements; extensive surveys of suitable habitat have not found further populations. Clearing in the Wheatbelt is likely to have reduced the area of potential habitat (DEC, 2008).

The main potential threats to Orange Dryandra include disturbance; weeds; grazing; and dieback caused by *Phytophthora cinnamomi*. This species does not recolonise after track maintenance or damage caused by rake hoes (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.
- Investigate a uniform measure to determine plant numbers and more precisely assess biological and ecological requirements and the relative impacts of threatening processes.
- Continue 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.
- Genetic investigations to determine the extent of clonal propagation.

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

The following regional and local priority recovery and threat abatement actions can be done to support the recovery of Orange 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.
- Ensure road widening and maintenance and other activities involving substrate or vegetation disturbance in areas where Orange Dryandra occurs do not adversely impact on known populations.
- 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 Orange 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.

#### **Invasive Weeds**

- Manage sites to prevent introduction of invasive weeds, which could become a threat to Orange Dryandra, using appropriate methods.
- Ensure chemicals or other mechanisms used to eradicate weeds do not have a significant adverse impact on Orange Dryandra.

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#### Diseases, Fungi and Parasites

- Develop and implement suitable hygiene protocols to protect known sites from further outbreaks of dieback caused by *Phytophthora cinnamomi*.

#### Trampling, Browsing or Grazing

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

#### Conservation Information

- Raise awareness of Orange Dryandra within the local community.
- Provide fact sheets to property owners and organise community survey initiatives.

#### 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 Orange 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**

- Threat Abatement Plan for Dieback Caused by the Root-Rot Fungus *Phytophthora cinnamomi* (EA, 2001).

This was the most current prescription 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.

Council Heads of Australasian Herbaria (CHAH) 2007, *Australian Plant Census, IBIS database*, Council of Heads of Australian Herbaria, Centre for Plant Biodiversity Research, viewed 24 September 2008, <[http://www.anbg.gov.au/cgi-bin/apni?taxon\\_id=269883](http://www.anbg.gov.au/cgi-bin/apni?taxon_id=269883)>.

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 Root-Rot Fungus Phytophthora cinnamomi*, viewed 30 May 2008, <<http://www.environment.gov.au/biodiversity/threatened/publications/tap/phytophthora/index.html>>.

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.