# Approved Conservation Advice for *Isopogon robustus* (Robust Coneflower)

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

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

*Isopogon robustus*, Family Proteaceae, also known as the Robust Coneflower, is an open shrub growing to 1.5 m high. Branchlets are red-brown to grey-brown in colour and minutely pubescent (clothed with soft, short hairs), and hairs are also present on leaves. Solitary flower heads are 38 mm in diameter, pink in colour and surrounded by long narrow leaves in a cone-like formation. The flowering period is from September to October.

## Conservation Status

*Isopogon robustus* is listed as **critically endangered**. This species is eligible for listing as critically endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act) as, in 2009, the Minister considered the Threatened Species Scientific Committee's (TSSC) advice under section 189 of the EPBC Act and amended the list under section 184 to include *Isopogon robustus*. The TSSC determined that this species met criteria 2 and 4 of the eligibility criteria based on very low numbers of mature individuals and a very restricted geographic distribution which is precarious for the species'survival (TSSC, 2009). The Robust Coneflower is also listed as Declared Rare Flora under Schedule 1 of the Western Australian *Wildlife Conservation Act 1950* and is managed as critically endangered (according to IUCN Criteria) by the Western Australian Government.

## Distribution and Habitat

The Robust Coneflower is known from a single population in the Parker Range approximately 200 km southwest from Kalgoorlie. In 2006 the population consisted of 203 mature plants and 14 seedlings (DEC, 2008) and occurs in very open shrubland. The species grows in grey skeletal sandy loam over laterite and occurs on a decomposing laterite shelf (WAH, 2006).

This species occurs within the Avon Natural Resource Management Region.

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

## Threats

The key threats to the Robust Coneflower are mining and its associated exploration activities, and inappropriate fire regimes.

The single known population of the Robust Coneflower occurs in an area that is highly prospective for mining. Plants have been subject to damage and destruction during mineral exploration activities in the past. Although there is no evidence available to suggest that this is a current threat, future mining activities may potentially reduce the area of occupancy and potential habitat as the species occurs on unallocated Crown Land, which is subject to mineral exploration (DEC 2006).

The main potential threat to the Robust Coneflower is inappropriate fire regimes. The species' response to fire is not known, however inappropriate intervals between fires may affect

recruitment. As the species is only found in one location, one catastrophic fire in this location may potentially eliminate the species.

## 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 ecological requirements and the relative impacts of threatening processes.
- Undertake seed germination and/or vegetative propagation trials to determine the requirements for successful establishment.
- Assess ecological requirements and demographic information including the species' response to disturbance (e.g. fire).

## Priority Actions

The following priority recovery and threat abatement actions can be done to support the recovery of the Robust Coneflower.

Habitat Loss, Disturbance and Modification

- Monitor the population to identify key threats.
- Monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary.
- Investigate inclusion in reserve tenure if possible.
- Manage any other known, potential or emerging threats such as mineral exploration in the area where the species occurs.

Fire

- Identify appropriate intensity and interval of fire to promote seed germination.
- Where appropriate provide maps of known occurrences to local and state Rural Fire Services and seek inclusion of mitigative measures in bush fire risk management plan(s), risk register and/or operation maps.

Conservation Information

- Raise awareness of the Robust Coneflower within the local community.

Enable Recovery of Additional Sites and/or Populations

- 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.
- Undertake appropriate seed or germplasm collection and storage.

This list does not necessarily encompass all actions that may be of benefit to *Isopogon robustus*, but highlights those that are considered to be of highest priority at the time of preparing the Conservation Advice.

## Information Sources:

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

Threatened Species Scientific Committee (2009). Listing Advice for *Isopogon robustus* (Robust Coneflower). Department of Environment, Water, Heritage and the Arts.

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

Western Australian Herbarium, Department of Environment and Conservation (WAH) (2006). FloraBase – The Western Australian Flora. Available on the Internet at: http://florabase.calm.wa.gov.au/