

This Conservation Advice was approved by the Minister / Delegate of the Minister on 3 July 2008

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

Approved Conservation Advice for
Allocasuarina thalassoscopica

This Conservation Advice has been developed based on the best available information at the time this conservation advice was approved.

Description

Allocasuarina thalassoscopica, Family Casuarinaceae, is a small shrub 1–2.5 metres high, with smooth bark. The articles (i.e. stem segments between whorls of teeth) are 6–13 mm long, and 0.7–0.98 mm in diameter, and the teeth are erect. Cones are cylindrical, 10–16 mm long, 9–15 mm in diameter (Wilson & Johnson, 1989; Halford, 1993). The species is most closely related to *A. emuina* and is difficult to distinguish from that species. Halford (1993) found considerable overlap in the measurements of these features and could not find any clearly distinguishing characters that could be used to separate the species. Flowering occurs from late May to late July (Halford, 1993).

Conservation Status

Allocasuarina thalassoscopica 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). It is also listed as endangered under the *Nature Conservation Act 1992* (Queensland).

Distribution and Habitat

Allocasuarina thalassoscopica is known from only one locality at Mt Coolum, 3 km south of Coolum Beach on the Sunshine Coast, Queensland. No other populations have been found, despite extensive field surveys of the area (Halford, 1993). Mt Coolum is an isolated tertiary comendite/tachy-rhyolite intrusion rising to 207 m above sea level. *Allocasuarina thalassoscopica* is restricted to the heathland community on the slopes of the summit, exposed to prevailing winds. Approximately 21 000 plants were known in an area of approximately 8.2 hectares, however to what extent a wildfire in 1994 affected the population is unknown. The soil is shallow, heavy textured, with outcropping rock (Halford, 1993). The entire population is protected in a Queensland National Park estate. This species occurs within the South East Queensland Natural Resource Management Region.

The heathland community where *A. thalassoscopica* is found is floristically diverse. Common species include *Leptospermum microcarpum*, *Melaleuca nodosa* and *Xanthorrhoea latifolia*, with *A. thalassoscopica* occurring as a significant component of the vegetation. This montane heath habitat is confined to a small number of rocky outcrops in the Sunshine Coast region (Halford, 1993).

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

Threats

The main identified threats to *A. thalassoscopica* include degradation of the habitat from pedestrian trampling, and inappropriate fire regimes (Halford, 1993).

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Research Priorities

Research priorities that would inform future regional and local priority actions include:

- Investigate the precise taxonomic relationship between *A. thalassoscopica* and *A. emuina* using appropriate methodologies including DNA markers.
- Determine life history and population dynamics for this species, especially in relation to fire.
- Undertake seed germination and/or vegetative trials to determine the requirements for successful establishment.
- Develop and implement a monitoring program.

Regional and Local Priority Actions

The following regional and local priority recovery and threat abatement actions can be done to support the recovery of *Allocasuarina thalassoscopica*.

Habitat Loss, Disturbance and Modification

- 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.

Trampling, Browsing or Grazing

- Develop and implement a pedestrian management plan for the mountain.

Fire

- Develop and implement a suitable fire management strategy for *A. thalassoscopica*.
- Identify appropriate intensity and interval of fire to promote seed germination and/or vegetation regeneration.
- 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.

Conservation Information

- Continue to raise awareness of *A. thalassoscopica* within the local community including fact sheets, talks and field days. Many resources already exist for this purpose. The main interest groups are the Australian Rainforest Conservation Society, WWF Australia, the Society for Growing Australian Plants, Field Naturalist Clubs, National Parks Association, regional bodies and local landholders. Government interests include the Queensland Environmental Protection Agency, Department of Tourism, Regional Development and Industry, and local councils.

Enable Recovery of Additional Sites and/or Populations

- Investigate options for establishing additional populations.
- Undertake appropriate seed collection and storage.
- 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 *A. thalassoscopica*, but highlights those that are considered to be of highest priority at the time of preparing the conservation advice.

Information Sources:

Halford, D, 1995, '*Allocasuarina thalassoscopica*' (*Casuarinaceae*) – a Conservation Assessment', Department of Environment and Heritage, Queensland.

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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 - Second Edition*, Australian Network for Plant Conservation, Canberra.

Wilson, KL, & Johnson, LAS, (eds) 1989, Casuarinaceae, vol. 3, *Flora of Australia*, ABRS/CSIRO Publishing, Melbourne, p. 150.