

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

Approved Conservation Advice for
***Corynocarpus rupestris* subsp. *rupestris* (Glenugie Karaka)**

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

Corynocarpus rupestris subsp. *rupestris*, Family Corynocarpaceae, also known as Glenugie Karaka, is a small tree or large shrub growing to 5 m (Harden, 2002). Leaves are glossy, leathery, and 5–18 cm long (DECC NSW, 2005a). Flowering occurs from October to November and flowers are small, white, and held in clusters (Harden, 2002; DECC NSW, 2005b). Fruit are red, 1 cm in diameter, with a point on the end, and appear in the summer-autumn period (Harden, 2002; DECC NSW, 2005a).

Glenugie Karaka can be distinguished from *Corynocarpus rupestris* subsp. *arborescens* (Southern Corynocarpus) by its longer inflorescences, which are 10–21 cm long, and shorter height, as Southern Corynocarpus grows to 12 m high (Harden, 2008).

Conservation Status

Glenugie Karaka is listed as **vulnerable**. This subspecies is eligible for listing as vulnerable 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 vulnerable under Schedule 1 of the *Endangered Species Protection Act 1992* (Cwlth). Glenugie Karaka is also listed as vulnerable under the *Threatened Species Conservation Act 1995* (NSW).

Distribution and Habitat

Glenugie Karaka occurs in the Clarence Valley near Coffs Harbour and Grafton and the Tenterfield area, NSW (NSW Government, 2005; DPI, 2007). A collection of this species has been made near Beaudesert, Queensland (NSW Government, 2005); however, this subspecies is not listed as occurring in Queensland (Bostock & Holland, 2007). The main known population occurs at Glenugie Peak, south-east of Grafton, and is protected in the Glenugie Peak Nature Reserve (Briggs & Leigh, 1995; DPI, 2007). The geographic range is less than 100 km (Briggs & Leigh, 1995). This subspecies occurs within the Northern Rivers (NSW) Natural Resource Management Region and may occur in the South East Queensland Natural Resource Management Region.

Glenugie Karaka inhabits dry rainforest on steep, rocky basaltic slopes (DECC NSW, 2005a) on the north-eastern face of Glenugie Peak (DPI, 2007). This subspecies persists in areas where fire is excluded due to the terrain and lack of ground litter (DECC NSW, 2005a; DPI, 2007).

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

Threats

The main identified threats to Glenugie Karaka are inappropriate fire regimes; damage to plants from the public; and invasion of habitat by weeds such as Lantana (*Lantana camara*) (DECC NSW, 2005a). Glenugie Karaka is killed by fire (NSW RFS, 2004).

This Conservation Advice was approved by the Minister / Delegate of the Minister on: 1/10/2008

The main potential threat to the species is a localised catastrophic event that could affect the population due to its restricted distribution (DECC NSW, 2005a).

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.
- Undertake seed germination and/or vegetative propagation trials to determine the requirements for successful establishment.
- Research the taxonomy of Glenugie Karaka (DECC NSW, 2005b).

Regional and Local Priority Actions

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

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.
- Control access routes to suitably constrain public access to known sites on public land.
- Minimise adverse impacts from land use at known sites.
- Investigate further formal conservation arrangements such as the use of covenants, conservation agreements or inclusion in reserve tenure.

Invasive Weeds

- Implement a management plan for the control of Lantana in the region (DECC NSW, 2005b).
- Identify and remove weeds in the local area, which could become a threat to Glenugie Karaka, using appropriate methods.
- Ensure chemicals or other mechanisms used to eradicate weeds do not have a significant adverse impact on Glenugie Karaka.
- Manage sites to prevent introduction of invasive weeds, which could become a threat to Glenugie Karaka, using appropriate methods.

Fire

- Develop and implement a suitable fire management strategy for Glenugie Karaka.
- 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

- Raise awareness of Glenugie Karaka within the local community.
- Encourage community awareness to assist in detecting new locations and with habitat rehabilitation projects (DECC NSW, 2005b)

Enable Recovery of Additional Sites and/or Populations

- Undertake appropriate seed collection and storage.
- Establish live ex-situ collection in collaboration with the Botanic Gardens Trust (DECC NSW, 2005b).

This Conservation Advice was approved by the Minister / Delegate of the Minister on: 1/10/2008

- 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 Glenugie Karaka, 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 Subspecies

- Threatened species hazard reduction list (NSW RFS, 2004), and
- Weeds of National Significance: Lantana (*Lantana camara*) (ARMCANZ, 2001).

These prescriptions were current at the time of publishing; please refer to the relevant agency's website for any updated versions.

Information Sources:

Agriculture & Resource Management Council of Australia & New Zealand (ARMCANZ) 2001, *Weeds of National Significance: Lantana (Lantana camara) Strategic Plan*, National Weeds Strategy, viewed 11 June 2008, <<http://www.dpi.qld.gov.au/cps/rde/xbcr/dpi/IPA-Lantana-Nsplan.pdf>>.

Bostock, PD & Holland, AE 2007, *Census of the Queensland Flora*, Queensland Government Environmental Protection Agency, Brisbane.

Briggs, JD & Leigh, JH 1995, *Rare or Threatened Australian Plants*, CSIRO Publishing, Canberra.

Department of Environment and Climate Change (DECC) NSW 2005a, *Glenugie Karaka – profile*, viewed 11 June 2008, <<http://threatenedspecies.environment.nsw.gov.au/tsprofile/profile.aspx?id=10181>>.

Department of Environment and Climate Change (DECC) NSW 2005b, *Glenugie Karaka – Priority Actions*, viewed 11 June 2008, <http://threatenedspecies.environment.nsw.gov.au/tsprofile/pas_profile.aspx?id=10181>.

Department of Primary Industries (DPI) 2007, *Bush Telegraph Magazine*, Winter Edition, p. 15.

Harden, GJ (Ed.) 2002, *Flora of New South Wales, Volume Three*, University of NSW Press, Kensington, NSW.

Harden, GJ 2008, *Corynocarpus rupestris Guymmer*, In: PlantNET - The Plant Information Network System of Botanic Gardens Trust, Sydney, Australia (version 2.0), viewed 11 June 2008, <<http://plantnet.rbgsyd.nsw.gov.au>>.

NSW Government 2005, BioNet Species Records, viewed 11 June 2008, <http://www.bionet.nsw.gov.au/BioNet.cfm?is_ie5up>.

NSW Rural Fire Service (RFS) 2004, *Threatened species hazard reduction list: Part 1-Plants*, NSW Rural Fire Service, viewed 11 June 2007, <http://www.rfs.nsw.gov.au/file_system/attachments/State/Attachment_20050304_5C7BDF1C.pdf>.

Vallee, L, Hogbin, T, Monks, L, Makinson, B, Matthes, M & Rossetto, M 2004, *Guidelines for the Translocation of Threatened Plants in Australia* (2nd ed.), Australian Network for Plant Conservation, Canberra.