

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

**Approved Conservation Advice for**  
***Macadamia ternifolia* (Small-fruited Queensland Nut)**

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**

*Macadamia ternifolia*, Family Proteaceae, also known as the Small-fruited Queensland Nut, is a small multi-stemmed tree that grows to 6–8 m. New growth is pink to red. Leaves are mostly in whorls of three, on petioles (leaf stalks) that are 0.3–1.3 cm long. Leaf blades are obovate to elliptic to narrowly elliptic, the apex is acuminate, the base is cuneate to attenuate and leaf margins are coarsely and irregularly serrate. Juvenile leaves are longest and are glabrous. Inflorescences are 4–20 cm long. Fruits are greyish, turning brownish, and are about 1.3–1.7 cm long (Stanley & Ross, 1986).

**Conservation Status**

Small-fruited Queensland Nut is listed as **vulnerable**. This species 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). The Small-fruited Queensland Nut is also listed as vulnerable under the *Nature Conservation Act 1992* (Queensland).

**Distribution and Habitat**

Small-fruited Queensland Nut is endemic to Queensland. Historically, this species occurred from near Gympie to Brisbane, however, the species is now restricted to an area between Mt Pinbarren south to Mary Cairncross Park, near Maleny (Barry & Thomas, 1994). This species is now considered extremely rare in the wild and much of the habitat in which it formerly occurred has been cleared. Remaining habitat is fragmented and most remaining populations occur in small, isolated habitat on reserves and on freehold land (Barry & Thomas 1994). Populations in 1997 were estimated at 1000 individuals in about 20 populations (Queensland CRA/RFA Steering Committee, 1997).

Small-fruited Queensland Nut has a specialised habitat requirement, and the species generally occurs in fertile, basalt-derived soils on steep southern slopes. Associated species include *Argyrodendron trifoliatum-Dissilaria baloghioides* alliance in the Blackall Range area and Araucarian microphyll-notophyll mixed tall closed forest at Mt Pinbarren. This species occurs within the Burnett Mary and South East Queensland Natural Resource Management Regions.

**Threats**

The main identified threats to Small-fruited Queensland Nut are clearing for development, inappropriate fire regimes and weed invasion (Queensland CRA/RFA Steering Committee, 1997).

**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.

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16/12/2008

- 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.
- Undertake seed germination and/or vegetative propagation trials to determine the requirements for successful establishment.

### **Regional and Priority Actions**

The following priority recovery and threat abatement actions can be done to support the recovery of Small-fruited Queensland Nut.

#### 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.
- Ensure road widening and maintenance activities (or other infrastructure or development activities) involving substrate or vegetation disturbance in areas where Small-fruited Queensland Nut occurs do not adversely impact on known populations.
- Control access routes to suitably constrain public access to known sites on public land.
- Suitably control and manage access on private land.
- Minimise adverse impacts from land use at known sites.
- Investigate formal conservation arrangements, management agreements and covenants on private land, and for crown and private land investigate inclusion in reserve tenure if possible.

#### Invasive Weeds

- Ensure chemicals or other mechanisms used to eradicate weeds do not have a significant adverse impact on Small-fruited Queensland Nut.
- Identify and remove weeds in the local area, which could become a threat to Small-fruited Queensland Nut, using appropriate methods.
- Manage sites to prevent introduction of invasive weeds, which could become a threat to Small-fruited Queensland Nut, using appropriate methods.

#### Fire

- Develop and implement a suitable fire management strategy for Small-fruited Queensland Nut.
- 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 Small-fruited Queensland Nut within the local community.
- Maintain liaisons with private landholders and land managers of land on which populations occur.

#### 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.

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This list does not necessarily encompass all actions that may be of benefit to Small-fruited Queensland Nut, 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**

A national Recovery Plan is currently under development for this species.

### **Information Sources:**

Barry, SJ & Thomas, GT 1994, *Threatened Vascular Rainforest Plants of South-east Queensland: A Conservation Review*, Department of Environment and Heritage, Queensland.

Queensland CRA/RFA Steering Committee 1997, *Forest taxa at risk, threats, conservation needs and recovery planning in south-east Queensland*, Queensland Government & Commonwealth of Australia.

Stanley, TD & Ross, EM 1986, *Flora of south-eastern Queensland, Volume Two*, Queensland Department of Primary Industries, Brisbane.

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.