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

Approved Conservation Advice for *Micromyrtus grandis*

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

Description

Micromyrtus grandis, Family Myrtaceae, also known as Severn River Heath-myrtle, is an erect shrub growing to 6 m tall. It can be single stemmed or mallee-like in form. It has stringy, orange-brown bark that curls off in linear strips, starting with the younger branches, on the stems and older branches forming masses of curling exfoliated bark within the centre of the shrub. Leaves are 0.5–4 mm long and 0.5–1.5 mm wide, strongly keeled in cross section, and with conspicuous oil dots in two distinct rows. Flowers are solitary on a peduncle (stalk) up to 1.5 mm long with white, cream or pink coloured petals. Fruits are 5-ribbed and scarcely enlarged from the flowers (Hunter et al., 1996; DECC, 1997, 2005a).

Conservation Status

Micromyrtus grandis is listed as **endangered**. This species is eligible for listing 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). *Micromyrtus grandis* is also listed as endangered under Schedule 1 of the *Threatened Species Conservation Act 1995* (NSW).

Distribution and Habitat

Micromyrtus grandis is restricted to one porphyritic ridge within the Severn River Nature Reserve with some plants on an adjoining property at the base of the same ridge, about 60 km north-west of Glen Innes on the New England Tablelands (Hunter et al., 1996; DECC, 2005a). The estimated number of plants is more than 15 000 with very few juveniles present in the population (Hunter et al., 1996). This may be due to the age of the communities, as it was noted that fire had not occurred in the area for some time (Hunter et al., 1996). *Micromyrtus grandis* occurs in open and exposed sites in heath and low woodland, in crevices of acid volcanic rocky outcrops and on shallow soil of surrounding areas between an altitude of 600–750 m (Hunter et al., 1996; DECC, 1997 & 2005a). This species occurs within the Border Rivers–Gwydir (NSW) Natural Resource Management Region (DECC, 2005a).

The distribution of this species overlaps the “White Box-Yellow Box-Blakely’s Red Gum Grassy Woodland and Derived Native Grassland” EPBC Act-listed threatened ecological community.

Threats

The main identified threats to *M. grandis* are local extinction due to the small population, trampling and grazing by goats (*Capra hircus*) (Hunter et al. 1996) and rabbits (*Oryctolagus cuniculus*), soil compaction, nutrient addition, clearing of habitat for fence line construction and maintenance, and road widening (DECC, 1997 & 2005a).

The main potential threat to *M. grandis* is an inappropriate fire regime (DECC, 1997).

Research Priorities

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

- Design and implement a long-term monitoring program to determine population size, distribution and demography (DECC, 2005b).
- Undertake survey work in suitable habitat and potential habitat to locate any additional populations/occurrences/remnants.
- Undertake seed germination and vegetative propagation trials to determine the requirements for successful establishment.

Regional and Local Priority Actions

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

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.
- Manage threats to areas of vegetation that contain populations/occurrences of *M. grandis.*
- Ensure road widening and maintenance activities such as fence line construction (or other infrastructure or development activities involving substrate or vegetation disturbance) in areas where *M. grandis* occurs do not adversely impact on known populations.
- Manage any changes to hydrology that may result in changes to the water table levels, increased run-off, sedimentation or pollution.
- Investigate formal conservation arrangements such as the use of covenants, conservation agreements or inclusion in reserve tenure.
- 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.

Trampling, Browsing or Grazing

- Control introduced pests, such as goats and rabbits to manage threats at known sites (DECC, 2005b).

Fire

- 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 (DECC, 2005b).
- Implement an appropriate fire management regime for local populations.

Conservation Information

- Raise awareness of *M. grandis* within the local community, particularly landowners adjacent to known areas of occurrence (DECC, 2005b).

Enable Recovery of Additional Sites and/or Populations

- Undertake appropriate seed collection and storage for NSW Seedbank and investigate seed viability, germination, dormancy and longevity (DECC, 2005b).
- 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 *M. grandis*, 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

- NSW Priority Action Statement for *M. grandis* (DECC, 2005b),
- Threat Abatement Plan for Competition and Land Degradation by Feral Rabbits (EA, 1999a), and
- Threat Abatement Plan for Competition and Land Degradation by Feral Goats (EA, 1999b).

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

Information Sources:

Department of Environment & Climate Change New South Wales, formerly Department of Environment & Conservation New South Wales (DECC) 1997, *Micromyrtus grandis* (a large shrub) – Endangered species determination - final, viewed 25 March 2008, <http://www.environment.nsw.gov.au/determinations/MicromyrtusGrandisALargeShrubEndSpListing.htm>.

Department of Environment & Climate Change New South Wales, formerly Department of Environment & Conservation New South Wales (DECC) 2005a, *Micromyrtus grandis* – Profile, viewed 25 March 2008, <http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/profile.aspx?id=10528>.

Department of Environment & Climate Change New South Wales, formerly Department of Environment & Conservation New South Wales (DECC) 2005b, *Micromyrtus grandis* – Priority actions (New South Wales Threatened Species Priority Action Statement), viewed 25 March 2008, <http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/pas_profile.aspx?id=10528>.

Environment Australia (EA) 1999a, *Threat Abatement Plan for Competition and Land Degradation by Feral Rabbits*, Biodiversity Group, Environment Australia, viewed 16 January 2008,<http://www.environment.gov.au/biodiversity/threatened/publications/tap/rabbits/index.html>.

Environment Australia 1999b, *Threat Abatement Plan for Competition and Land Degradation by Feral Goats*, Biodiversity Group, Environment Australia, viewed 16 January 2008,<http://www.environment.gov.au/biodiversity/threatened/publications/tap/goats/index.html>.

Hunter, JT, Quinn, FC & Bruhl, JJ 1996, '*Micromyrtus grandis* (Myrtaceae), a new species from New South Wales', *Telopea*, vol. 7, no. 1, pp.77-82.

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.