

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

Approved Conservation Advice for
***Eucalyptus mckieana* (McKie's Stringybark)**

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

Description

Eucalyptus mckieana, Family Myrtaceae, also known as McKie's Stringybark, is a medium sized tree to 30 m high, usually straight-trunked with red-brown stringy or fibrous bark extending to the ends of the branches (Quinn et al., 1995). The juvenile leaves are bristly and very narrow, and adult leaves are glossy or grey-green, 6–9 cm long and 1–2 cm wide. The fruits are ball-shaped, 5–7 mm wide, and grow clustered in groups of eleven or more (Harden, 1991). McKie's Stringybark is one of a group of related stringybark species that have hairy seedlings, reticulate venation (i.e. forming a network) on the adult leaves, numerous oil glands, buds in 7-formation or more, and inflorescences that are axillary (in the leaf axis), not clustered terminally (DECC, 2005). The species is distinguished by the ascending disc of the fruits, the clearly stalked buds and fruits, and leaves having the same colour on both sides. The juvenile leaves are also narrower than in related species (DECC, 2005).

Conservation Status

McKie's Stringybark 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 species is also listed as vulnerable under Schedule 2 of the *Threatened Species Conservation Act 1995* (NSW). McKie's Stringybark/Blackbutt Open Forest is listed as an Endangered Ecological Community under the *Threatened Species Conservation Act 1995* (NSW).

Distribution and Habitat

McKie's Stringybark occurs over a fairly small area of the Northern Tablelands and adjoining north-west slopes of NSW, from near Inverell south to the Retreat area, and from Tenterden west to the Gilgai area (Quinn et al., 1995; Peacock, 1996). Although this species is locally abundant in a few areas, such as near Gilgai, the general distribution is very patchy. Peacock (1996) lists 18 populations, though two of these are unconfirmed, while Quinn et al. (1995) cites 30 populations, amounting to over 2000 individuals. Many of the populations seen by Quinn et al. in 1995 were in lightly disturbed sites, such as roadsides and grazed private property (Quinn et al., 1995). McKie's Stringybark occurs within the Border Rivers–Gwydir and Namoi (NSW) Natural Resource Management Regions.

This species usually grows in gently undulating to flat areas, on the drier western side of the New England Tablelands and on the upper western slopes at altitudes of approximately 600–1050 m. The mean annual rainfall for this area is approximately 650–750 mm (Quinn et al., 1995). It grows on a range of soil types, including deep clay loams on metasediments, but more commonly on sandy loams derived from granites and quartz porphyrites; found on both moderately fertile and siliceous, relatively infertile, granitic soils (Quinn et al., 1995; Peacock, 1996).

This species is reserved in Torrington State Recreation Area (33 trees), Kings Plains National Park, Single National Park (100+ trees) and Severn River Nature Reserve (Copeland, 2001,

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pers. comm.; DECC 2005). The population at Goonoowigal 'Bushland Reserve' near Inverell seems secure; although a Council-administered reserve, it is effectively managed as a conservation reserve by a well-informed Trust. McKie's Stringybark occurs in the endangered McKie's Stringybark/Blackbutt (*Eucalyptus andrewsi*) Open Forest (DECC 2007).

The distribution of McKie's Stringybark overlaps with the following EPBC Act-listed threatened ecological communities:

- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland, and
- Upland Wetlands of the New England Tablelands and the Monaro Plateau.

Threats

The main identified threats to McKie's Stringybark include clearing and fragmentation of habitat for agriculture, development and rural subdivision; grazing by domestic stock and feral rabbits (*Oryctolagus cuniculus*); destruction of trees and disturbance of habitat by timber-harvesting activities and collection of firewood (DECC, 2005).

Much of the distribution of this species is on moderate soils in flattish to gently sloping country and it has been subject to fairly extensive clearing for grazing (Quinn et al., 1995). Some of the area in which it occurs has been subject to considerable disturbance by mining.

A potential threat for McKie's Stringybark is the occurrence of the species in Clive State Forest, north-west of Tingha, which is at present subject to logging, and possible clearing for pine plantations, which has occurred in other State Forests in the region (Quinn et al., 1995). Peacock (1996) asserts though that there are no plans to expand the pine plantation estate in the area. Weed invasion and inappropriate fire regimes in habitat areas are also potential threats to the species.

Research Priorities

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

- Design and implement a monitoring program.
- 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 trials to determine the requirements for successful establishment.
- Investigate the cultural significance of McKie's Stringybark to local Aboriginal communities and opportunities for the community to be involved in management of the species (DECC, 2005).

Regional and Local Priority Actions

The following regional and local priority recovery and threat abatement actions can be done to support the recovery of McKie's Stringybark.

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/remnants of McKie's Stringybark.

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- Ensure chemicals or other mechanisms used to eradicate weeds do not have a significant adverse impact on McKie's Stringybark.
- Ensure agriculture, development, timber harvesting or other activities involving substrate or vegetation disturbance in areas where McKie's Stringybark occurs do not adversely impact on known populations.
- Control collection of firewood and retain all standing and fallen dead timber in stands containing the species (DECC, 2005).
- Notify appropriate agencies of roadside and utility easement locations for protection during roadside and easement construction and maintenance activities (DECC, 2005).
- Investigate formal conservation arrangements such as the use of covenants, conservation agreements or inclusion in reserve tenure.

Invasive Weeds

- Undertake weed control where required (DECC, 2005).

Trampling, Browsing or Grazing

- Develop and implement a stock management plan for roadside verges and travelling stock routes.
- Exclude stock from remnants containing the species to allow natural regeneration (DECC, 2005).
- Develop and implement a management plan for the control and eradication of European Rabbit in remnant stands to allow natural regeneration (DECC, 2005).

Fire

- Develop and implement a suitable fire management strategy for McKie's Stringybark.
- Identify appropriate intensity and interval of fire to promote seed germination and 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

- Raise awareness of McKie's Stringybark within the local community.
- Develop sustainable management guidelines and technical material to assist landowners. This will include measures to address stock management, ecological fire management and property maintenance activities (DECC, 2005).

Enable Recovery of Additional Sites and/or Populations

- Undertake appropriate seed collection and storage.
- Restore and rehabilitate remnants and linkages in the landscape. Link this to other revegetation programs as well as recovery plans for threatened species and ecological communities (DECC, 2005).
- Investigate options for 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 McKie's Stringybark, but highlights those that are considered to be of highest priority at the time of preparing conservation advice.

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