

## Approved Conservation Advice for *Acacia axillaris* (Midlands Acacia)

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

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

*Acacia axillaris*, Family Mimosaceae, the Midlands Acacia or Midlands Mimosa, is a shrub which reaches approximately 2–4 m in height. Adult foliage consists of very narrow, modified leaves (phyllodes) 1–5.5 mm long which taper to a very sharp point. The inflorescence is less than 6 mm long, and comprises a cluster of 2–4 honey-perfumed, cream coloured flowers on a stalk 1.5–2 mm long, formed in the junction (axil) between the phyllode and stem between September and October (Simmons, 1982; Orchard and Wilson, 2001). Fruits occur in February (Orchard and Wilson, 2001).

It is distinguished from the more common *A. riceana* (Southern Spiny Wattle), *A. siculiformis* (Dagger Wattle) and *A. genistifolia* (Spreading Wattle) by its flowering parts and less distinctly by leaf shape. Distinctions include the following: *A. riceana* bears its flowers in a cylindrical spike on a stalk 5–12 mm long; *A. siculiformis* bears a single globular inflorescence of 30–40 flowers on a short stalk in the leaf axil; *A. genistifolia* has one or two globular inflorescences of 15–25 flowers borne on stalks 1–2 cm long in the leaf axils.

Midlands Acacia was previously known as *Racosperma axillare*.

### Conservation Status

Midlands Acacia 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 Midlands Acacia is also listed as vulnerable under the *Threatened Species Protection Act 1995* (Tasmania).

### Distribution and Habitat

The Midlands Acacia occurs in the lowland pastoral and agricultural region of the Midlands, in north and east-central Tasmania, and Mt Barrow in the subalpine/montane zone of north-east Tasmania (Simmons, 1982; Lynch et al., 1999). The species is extant at at least six locations with an apparent altitudinal and geographic disjunction between the high-altitude subalpine stands at Mt Barrow (1000–1400 m above sea level) and the stands in the Elizabeth, St Pauls, Lake and Clyde River catchments (100–550 m above sea level) (Lynch, 1993; Barker and Johnson, 1998; Lynch et al., 1999).

Most stands are associated with watercourses or soaks. However, Midlands Acacia is not restricted to this type of environment and extends onto surrounding slopes, such as boulder scree above riparian zones (Simmons, 1982; Barker and Johnson, 1998; Johnson and Barker, 1998; Lynch et al., 1999). Slopes are gentle and disturbance by floods is usually frequent (Lynch et al., 1999). Most stands are on dolerite, although the species also occurs on sedimentary rocks and alluvium (Lynch et al., 1999).

Midlands Acacia has been recorded from several plant communities, including *Leptospermum lanigerum* scrub/forest, *Eucalyptus rodwayi* grassy or shrubby woodland/forest, *E. ovata* shrubby forest/woodland and *Hakea microcarpa* grassy shrubland. (Lynch et al., 1999).

The Elizabeth River (Devils Elbow to Chimney Hill) and on the Lake River (Big Den) populations support the largest and most continuous stands of Midlands Wattle.

In a 1996 census, an estimated 47 000 ( $\pm 5000$ ) mature individuals were recorded in 18 populations (Barker and Johnson, 1998). This estimate did not include some reaches of the Elizabeth River that were unable to be sampled. Subsequent surveys have raised the total number of plants to about 90 000  $\pm$  10 000 (TSS, 2010).

Minimum population sizes were: Dukes Marsh - 350, St Pauls River - 500, Elizabeth River (Devils Elbow to Chimney Hill) and hinterland - 47 200, Lake Leake Road - 250, Big Den (Lake River) - 40 000, Mt Barrow - 500, Clyde River - 2000.

Four sites on which this species occurs are public land: Dukes Marsh (State Forest), Mt. Barrow (State Reserve), Scrubby Den Rivulet (State Forest) and part of the St Pauls River population (Crown land) and Royal George (unallocated Crown land that has been recommended to become a Conservation Area under the *Tasmanian Nature Conservation Act 2002*) (CLAC Project Team, 2006; Johnson and Barker, 1998). The Dukes Marsh and Scrubby Den populations are protected from logging under the *Tasmanian Forest Practices Code* (TSU, 1998). The Elizabeth River, St Pauls River, Lake River, Lake Leake Road and Clyde River populations are on private property. Part of the Lake River stand is covered by a conservation covenant under the *Tasmanian Nature Conservation Act 2002*, as are parts of the St Pauls River population.

This species occurs within the Tasmanian Northern Slopes, Tasmanian South East and Ben Lomond Bioregions and the North Tasmanian Natural Resource Management Regions.

Part of the distribution of this species, along the St Pauls River, is associated with the 'Eucalyptus ovata-Callitris oblonga Forest' EPBC Act-listed threatened ecological community.

## Threats

The main identified threats to the Midlands Acacia are land clearance, impoundment construction and altered flow regimes, inappropriate fire regimes, weed invasion, browsing and trampling by stock and, potentially, *Phytophthora cinnamomi*.

Riparian vegetation along the St Pauls River has been heavily impacted by past clearing and agricultural development, with once continuous vegetation communities reduced to scattered remnants and a high level of woody weed invasion, with Gorse (*Ulex europaeus*) a particular issue (Zacharek, 2000). In other areas the riparian vegetation is still relatively intact with a low level of invasion by introduced plants. Riparian habitat along the Elizabeth River (from Devils Elbow to Chimney Hill) is relatively safe from the impact of clearing and development as it occurs within a gorge unsuitable for agriculture. Some stands occur next to partial logging operations. Gorse is also an issue along the Clyde River.

Impoundment construction and altered flow regimes are potential threats to this species. Depending on the scale, water storage dams have the potential to destroy significant stands if constructed in or near occurrences. Damage can be from construction and the resultant impoundment, as well as from downstream impacts limiting water availability and altering

flows. Many stands are within or close to sites potentially suitable for such an activity and sites along the St Pauls and Elizabeth rivers have been the subject of impoundment proposals in recent years.

Inappropriate stock grazing regimes is a potential threat on private land. Stock grazing and trampling constitutes a direct physical threat to seedlings and new plants, as well as to other components of the species' habitat, through erosion and introducing weeds (Barker and Johnson, 1998; Lynch et al., 1999)

Midlands Acacia is susceptible to elimination by inappropriate fire regimes. Observations suggest that fire, is likely to impair the species' long-term survival prospects at sites with highly competitive introduced plants, such as Gorse (*Ulex europaeus*). Fire exclusion is the optimal policy for stand maintenance. If fires are considered necessary for other reasons, they would be best in autumn or early winter (Lynch et al., 1999) with a frequency of no greater than 10–15 years (Johnson and Barker, 1998).

The species is considered moderately susceptible to dieback from *Phytophthora cinnamomi* (Johnson and Barker, 1998). However most occurrences of Midlands Acacia are in areas and vegetation communities that are marginal in terms of their suitability for disease expression, therefore the risk to this species is low.

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

### **Regional Priority Actions**

The following regional priority recovery and threat abatement actions can be done to support the recovery of the Midlands Acacia.

#### 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 there is no disturbance in areas where Midlands Acacia occurs, excluding necessary actions to manage the conservation of the species/ecological community.
- Manage any disruptions to water flows.
- 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

- Develop and implement a management plan for the control of Gorse in the region.
- Ensure chemicals or other mechanisms used to eradicate weeds do not have a significant adverse impact on the Midlands Acacia.

#### Fire

- Develop and implement a suitable fire management strategy for the habitat of the Midlands Acacia that prescribes fire exclusion or intervals of no less than 10-15 years.

- 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.

#### Diseases, Fungi and Parasites

- Develop and implement suitable hygiene protocols to protect known sites from further outbreaks of dieback caused by *Phytophthora cinnamomi*.

#### Conservation Information

- Raise awareness of the Midlands Acacia within the local community.
- Frequently engage with private landholders and land managers responsible for the land on which populations occur and encourage these key stakeholders to contribute to the implementation of conservation management actions.

#### 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

### **Local Priority Actions**

The following local priority recovery and threat abatement actions can be done to support the recovery of the Midlands Acacia.

#### Habitat Loss, Disturbance and Modification

- Control access routes to suitably constrain public access to known sites on public land.
- Suitably control and manage access on private land and other land tenure.
- Minimise adverse impacts from land use at known sites.
- Protect populations of the listed species through the development of conservation agreements and/or covenants.

#### Trampling, Browsing or Grazing

- Where appropriate, manage total grazing pressure at significant sites through exclusion fencing or other barriers, to protect riparian habitat.

#### Diseases, Fungi and Parasites

- Develop and implement suitable hygiene protocols to protect known sites from further outbreaks of dieback caused by *Phytophthora cinnamomi*.
- If necessary, implement appropriate management actions to minimise the adverse impacts of existing *P. cinnamomi* infestations.

This list does not necessarily encompass all actions that may be of benefit to the Midlands Acacia, 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**

- *Recovery Plan - Selected Tasmanian forest associated plants*. Barker PCJ and Johnson, KA (1998). Forestry Tasmania: Hobart.

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

### Information Sources:

Barker PCJ and Johnson KA (1998). Recovery Plan - Selected Tasmanian Forest Associated Plants. Hobart, Tasmania: Tasmanian Forestry.

CLAC Project Team (2006). Consultation Report and Recommended Allocations for the Municipality of Northern Midlands. Crown Land Assessment and Classification Project, Department of Primary Industries and Water, Hobart.

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Threatened Species Unit (TSU) (1998). Listing Statement Midlands Wattle *Acacia axillaris*. Department of Primary Industries, Water and Environment, Tasmania. Available on the Internet at:

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