

# Draft Revision (2009)

## Draft Flora and Fauna Guarantee Action Statement No. 30

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### Slender Myoporum *Myoporum floribundum*

#### Description

Slender Myoporum (*Myoporum floribundum*) is an erect, spreading, spindly, hairless shrub to 3 m tall. Branches are often horizontal to drooping, and sparsely warty. Leaves are stalkless, alternate to opposite, lax, usually drooping, narrow-linear 2-11 cm long, 1-2.5 mm wide with an acute apex and entire margins (Jeanes 1999).

Inflorescences are 6-8 flowered, with hairless flower stalks 1-3 mm long. Flowers occur on the upper side of branches. Sepals are hairless, oval to lance-shaped, 1-1.5 mm long, acute, and meet at their edges but do not overlap. The corolla (petals of a flower collectively) is 3-5 mm long, hairless outside, long scattered hairs inside, white, without spots; the stamens are very long. The ovary and style are hairless. Fruit are obloid, 2-3 mm long and 2-2.5 mm wide, compressed, truncate (cut off squarely), and brown when mature. Flowering occurs from October to January (Jeanes 1999).

#### Distribution

Of the known Victorian occurrences, the two largest populations of Slender Myoporum straddle the border of two abutting National Parks in East Gippsland. One population is just west of Wheelers Saddle (Snowy River National Park) and the other is on Ingeegoodbee Track, south of Mt Menaak (Alpine National Park). A third population is on private land on the Bonang-Gelantipy Road east of McKillops Bridge. There are further records of Slender Myoporum, some in remote locations, scattered along both the Deddick River Road and Ingeegoodbee Track, with isolated occurrences in the Alpine and Snowy River National Parks (however as at 2009, population numbers are unknown).

#### Habitat

Slender Myoporum is apparently confined in Victoria to areas of Rainshadow Woodland where it grows on steep, gravelly, north-facing slopes above the Upper Snowy and Deddick River Valleys. Sites are generally dominated by White Box (*Eucalyptus albens*) with Drooping Sheoke (*Allocasuarina verticillata*), Kurrajong (*Brachychiton populneus*), Pale-fruit Ballart (*Exocarpos stricta*) or Austral Indigo (*Indigofera australis*) present in the shrublayer. The groundlayer is open and diverse with grasses including Kangaroo Grass (*Themeda triandra*), Common Wheat-grass (*Elymus scaber*), and Spear-grass (*Austrostipa* spp.) present together with herbs including Bluebell (*Wahlenbergia* spp.), Cockspur Flower (*Plectranthus parviflorus*), Twining Glycine (*Glycine clandestina*) and Greenish-flower Vanilla-lily (*Arthropodium* sp. 2). Purple Coral-pea (*Hardenbergia violacea*) a groundcover / climber, and the tufted Black-anther Flax-lily (*Dianella revoluta*) are common.

#### Life history and ecology

The long-term viability of present populations of Slender Myoporum is unknown because little is known about the life history or ecology of the taxon. Populations appear to comprise different age classes with mature specimens to 3 m tall together with advanced seedlings and juveniles ranging between 0.4 m to 1.5-2 m tall; and also appears to produce varying quantities of fruit.

Slender Myoporum has apparently disappeared from past reported localities (records of the National Herbarium of Victoria), and is thought to be a species that may not recover from severe physical disturbance, for example, landslip (N. Walsh, *pers. comm.* 2009). Given the stony, nutrient-poor habitat in which Slender Myoporum persists, there is little likelihood of this species being outcompeted. There is some possibility that Slender Myoporum would regenerate well after fire as does its closest relative, *Myoporum bateae* from New South Wales (Ross 1992), but whether germination is stimulated by the burning or the creation of bare soil is unknown. The effect of various intensities and frequencies of fire on Slender Myoporum plants, population dynamics and habitat is poorly understood.

Populations in the Alpine and Snowy River National Parks that experienced a moderate fire intensity and a less than severe crown scorch during the 2003-Alpine fires and surveyed in February 2004 were found to be healthy, lush, vigorous and recruiting well. Some plants were coppicing from the root stock. The many advanced first-year seedlings are likely to be the result of the first post-fire germination pulse of soil-stored seed. Seedlings were too well developed to be progeny of the first post-fire seasons' seedfall. Coppice growth was too immature to have flowered and produced

the numerous seedlings. At some sites where crown scorch was severe and the fire intensity high, no evidence of coppicing or germinating Slender Myoporum was found (Browne & Trumbull-Ward 2004).

A February 2008 survey of Slender Myoporum found that (at least) the Ingeegoodbee Track and Wheelers Saddle populations have regenerated well with some having expanded in size due to the increase in natural recruitment through seed-derived plants (seedlings). All age classes, including senescing and dead plants, are represented in sampled stands. A measure of a successful regeneration strategy for Slender Myoporum may be determined by assessing plant height as coppicing plants were found to be consistently taller than those derived from seed (Downe 2008).

Poor response from seed during germination trials would suggest that cutting material is likely to provide the best method of growing this species (J. Jeanes, *pers. comm.* 2009).

Seed from Slender Myoporum populations is currently (2009) housed under refrigeration in the Millennium Seedbank Collection at the National Herbarium of Victoria.

## Conservation status

### Victorian conservation status

The Slender Myoporum has been listed as “threatened” under the *Flora and Fauna Guarantee Act 1988*.

The Slender Myoporum is considered “endangered” in Victoria according to DSE’s *Advisory List of Rare or Threatened Plants in Victoria - 2005* (DSE 2005).

### Threats

The main threats to Slender Myoporum populations are habitat loss through vegetation removal and inappropriate fire regimes. The effect of grazing is unknown but is thought to be minimal because of a high resin content making members of the *Myoporum* genus unpalatable to browsers and grazers (Ross 1992).

<i>Standard threat</i>	<i>Source Of Threat</i>	<i>Explanation</i>
Habitat damage or loss	Vegetation clearance	Vegetation clearing and habitat loss or damage may be a result of road-widening activities or inappropriate habitat removal on private land. Clearing for pasture is unlikely as the rocky habitats of Slender Myoporum are not conducive to pasture establishment.
Inappropriate fire regimes	Fire - frequency	Fires that are too frequent have the potential to decrease populations of Slender Myoporum by limiting the ability to self-recruit (seed or rootstock coppice), which becomes diminished with each successive fire.
Inappropriate fire regimes	Fire - intensity	An intense fire has the potential to severely impede the regenerative capacity of populations of Slender Myoporum by preventing coppicing by burning rootstocks, and in the burning of soil-stored seed. An intense fire may also incinerate mature seed ready to fall thereby limiting a populations' ability to self-recruit.
Inappropriate fire regimes	Fire - season or time	An inappropriate season or time of fire could set back plant recruitment by destroying mature plants before flowering or the production of viable seed, or by eradicating soil-stored seed, or by eliminating first-year seedlings.

### Important populations

<i>Location name</i>	<i>Land manager</i>	<i>Catchment</i>	<i>Bioregion</i>
Snowy River National Park (NP)	Parks Victoria	East Gippsland	East Gippsland Uplands Monaro Tablelands
Alpine NP	Parks Victoria	East Gippsland	East Gippsland Uplands

## Past management actions

<i>Action</i>	<i>Result explanation</i>
Liaise with government agencies	Parks Victoria are aware of the sensitivity of Slender Myoporum populations at Wheelers Saddle and Ingeegoodbee Track to road works and will consult with DSE when any road works are proposed for these locations.
Apply ecological burning	Baseline monitoring data was acquired in 2004 (and is periodically updated). Such data can be used to help predict a suitable ecological burning regime for Slender Myoporum populations.
Undertake periodic surveillance monitoring of populations	Major Slender Myoporum populations were last monitored by staff from Arthur Rylah Institute, DSE, in February 2008. All monitoring results were entered into the VROTpop database.

## Conservation objectives

### Long term objective

To ensure that the Slender Myoporum can survive, flourish and retain its potential for evolutionary development in the wild.

### Objectives of this Action Statement

- To increase the number of populations or individuals
- To improve condition of habitat
- To secure populations or habitat from potentially incompatible land use or catastrophic loss
- To increase knowledge of biology, ecology or management requirements

## Intended management actions

*The intended management actions listed below are further elaborated in DSE's Actions for Biodiversity Conservation (ABC) system. Detailed information about the actions and locations, including priorities, is held in this system and will be provided annually to land managers and other authorities.*

<i>Standard objective</i>	<i>Targets</i>	
To increase the number of populations or individuals.	<ul style="list-style-type: none"> <li>• Propagated cutting material translocated to increase the number of individuals back to a sustainable level if populations are seen to be declining or becoming unstable.</li> </ul>	
<i>Action</i>	<i>Details</i>	<i>Responsible agents</i>
Propagate seedlings and/or cuttings for reintroduction or reinforcement.	Plan for collection of appropriate material (cuttings) to be taken during the appropriate season.	Parks Victoria

<i>Standard objective</i>	<i>Targets</i>	
To improve condition of habitat.	<ul style="list-style-type: none"> <li>• Condition of habitat improved by implementing suitable fire regime once determined.</li> </ul>	
<i>Action</i>	<i>Details</i>	<i>Responsible agents</i>
Apply ecological burning.	Burning to be undertaken at intervals to be decided following fire response research.	Parks Victoria

<i>Standard objective</i>	<i>Targets</i>	
To secure populations or habitat from potentially incompatible land use or catastrophic loss.	<ul style="list-style-type: none"> <li>No avoidable loss of known populations.</li> </ul>	
<i>Action</i>	<i>Details</i>	<i>Responsible agents</i>
Liaise with government agencies.	Continue to liaise with East Gippsland Shire on current private land use and status. Ensure that Parks Victoria and DSE remain aware of major population locations and discuss with relevant staff measures to minimise possible destruction of plants during roadworks and/or fuel reduction burning activities.	DSE Statewide Services - Gippsland region, East Gippsland Shire, Parks Victoria

<i>Standard objective</i>	<i>Targets</i>	
To increase knowledge of biology, ecology or management requirements.	<ul style="list-style-type: none"> <li>Known populations surveyed to add further information on population dynamics to baseline biological, ecological and management data so that management decisions can be made on the basis of sound scientific knowledge.</li> </ul>	
<i>Action</i>	<i>Details</i>	<i>Responsible agents</i>
Design survey.	Determine length of monitoring period, together with time and season of flora surveys to maximise survey results.  Stratify survey to collect data on pollinators, fire response mechanisms, seed longevity etc.	DSE Statewide Services - Gippsland region
Undertake periodic surveillance monitoring of populations.	Monitor all known populations to assess if they are regenerating, declining, remaining stable.	DSE Statewide Services - Gippsland region
Undertake research into management requirements.	Plan for fieldwork to survey and monitor the major Slender Myoporum populations (at least) during the appropriate season, in order to collect meaningful baseline management data.	DSE Statewide Services - Gippsland region

## Personal Communications

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## References

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