



# *Prostanthera askania*

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Common names: **Cut-leaf mint-bush, Tranquillity mint-bush, Strickland mint-bush**

The following information is provided to assist authors of species impact statements, development and activity proponents, determining and consent authorities, and others who are required to prepare or review assessments of likely impacts on threatened species pursuant to the provisions of the *Environmental Planning and Assessment Act 1979*. These guidelines should be read in conjunction with the NPWS *Information Circular No. 2: Threatened Species Assessment under the EP&A Act: The '8 Part Test' of Significance* (November 1996).

## Survey

Survey for *Prostanthera askania* may be undertaken at any time of the year. A combination of leaf characteristics and habit should enable the species to be identified in the absence of flowers. However, the species is most readily observed during its flowering season (primarily between September to December) when plants produce many pale mauve to blue mauve flowers. *P. askania* may be confused with *P. incisa* with which it has affinities. However *P. incisa*, while moderately to densely hairy, has short curled hairs as opposed to long spreading hairs and the leaves of *P. incisa* have much shorter teeth than those of *P. askania*.

Potential habitat for *P. askania* occurs in the following vegetation communities within Gosford and Wyong local government areas:

- Coastal Narrabeen Moist Forest (MU 6), Coastal Wet Gully Forest (MU 1), Coastal Warm Temperate-Subtropical Rainforest (MU 1a) or Coastal Narrabeen Shrub Forest (MU 22), of NPWS (2000)
- Coastal Ranges Moist Layered Forest (MU 35), Narrabeen Warm Temperate-Subtropical Rainforest (MU 42) and Narrabeen Hunter Ranges Gully Dry Rainforest (MU 41), of Bell (2002)
- Coastal Narrabeen Moist Forest (MU E6a) and Coastal Warm Temperate Rainforest (MU E1ai), of Bell (2004).

Survey should not necessarily be confined to areas of intact native vegetation. *P. askania* plants have been recorded growing in highly

disturbed environments such as along roadsides and fence lines.

Where new sites are located, site details including plant numbers, habitat and location should be recorded and forwarded to the DEC.

## Life cycle of the species

The ecology of *P. askania* is described in the draft recovery plan (DEC 2004) and summarised in the species profile.

Proposals that are likely to impact upon the life cycle of the species include those that contribute to the following:

- Loss of individuals

The significance of a particular activity that physically destroys individual plants will require an examination of the number of plants to be destroyed in relation to the size of the population and a discussion of how recruitment, gene flow and the overall health of the population will be affected. Translocation should not be considered as an appropriate means of compensating for the loss of individuals due to the uncertainty associated with the long-term survival of translocated plants.

- Loss and fragmentation of habitat

As the breeding system of *P. askania* is not understood, the effects of loss and fragmentation of its habitat are not known. Destruction of habitat may place a local population at risk of extinction.

- Modification of habitat

Urban development in close proximity to *P. askania* sites is likely to cause modification of habitat through altered hydrological conditions, soil pH and nutrient levels, weed invasion, potential introduction of plant pathogens and altered fire frequency. Subsequent increases in pedestrian and/or vehicular traffic through sites may result in trampling, soil compaction, erosion and rubbish dumping. Other proposals that result in the regular slashing, grazing, spraying (herbicides and pesticides) or burning of *P. askania* habitat are also likely to result in the modification of that habitat.

- Damage to the soil seedbank

Disturbances that will destroy or prevent germination of *P. askania* seed include rubbish dumping, the removal of leaf litter and topsoil, weed invasion and spraying with residual herbicides that are capable of killing seeds in the soil. Frequent disturbances (from slashing, grazing, herbicide spraying or burning for example) may prevent the soil seed bank of the species from being replenished.

- Altered fire regimes

Proposals that result in the frequent burning (ie successive fires <10 years apart) of sites are considered likely to impact upon recruitment of the species. Recommended fire frequencies for the species are provided in the draft recovery plan (DEC 2004).

### Threatening processes

There are six key threatening processes listed in Schedule 3 of the NSW *Threatened Species Conservation Act* 1995 (TSC Act) that are potentially relevant to *P. askania*. These are:

- *Clearing of native vegetation;*
- *High frequency fire resulting in the disruption of life cycle processes in plants and animals and the loss of vegetation structure and composition;*
- *Infection of native plants by Phytophthora cinnamomi;*
- *Alteration to the natural flow regimes of rivers, streams, floodplains and wetlands;*
- *Bush rock removal; and*

- Anthropogenic climate change.

Other threatening processes include slashing and herbicide spraying to maintain paddocks and road verges, grazing and trampling by livestock, weed invasion and the modification of habitat associated with adjacent urban development such as bushfire hazard reduction works, rubbish dumping (including green waste, household rubbish and construction materials) and stormwater runoff.

### Viable local population of the species

The viable population size for *P. askania* is unknown. In the absence of a detailed assessment demonstrating otherwise, all populations should be assumed to be viable.

### A significant area of habitat

Assessment of habitat significance for *P. askania* requires consideration of the following:

- number of *P. askania* plants present (including consideration of the soil seed bank);
- proportion of the local population present;
- location in relation to the current distributional limits of the species;
- size, condition and connective importance of the habitat;
- uniqueness of habitat; and
- management potential including the likelihood of ameliorating any existing threatening processes.

The DEC considers that all viable populations occupy a significant area of habitat until such time as adequate and representative examples are conserved across the species' range.

### Isolation/fragmentation

*P. askania* habitat has been fragmented by clearing for agriculture, urban development as well as road construction and maintenance across its range. The distance between populations of *P. askania* that will result in genetic isolation is unknown because the species' pollen vectors are unknown. Seed dispersal is localised, so interaction via this mechanism is unlikely.

The clearing of interconnected or proximate areas of habitat for the species (or its pollen vectors) is undesirable as this may expose populations to an increased risk of genetic isolation and subsequent decline.

### **Regional distribution of the habitat**

The known distribution of *P. askania* is confined to the Sydney Basin Bioregion as defined in the Interim Biogeographic Regionalisation of Australia (Thackway & Cresswell 1995).

### **Limits of known distribution**

The known distribution of *P. askania* extends from Katandra Reserve in the Gosford local

government area north to Fountaindale in the Wyong local government area. The western limit of its distribution occurs within the headwaters of creeks that drain east from Strickland and Ourimbah State Forests.

### **Adequacy of representation in conservation reserves or other similar protected areas**

*P. askania* is not considered to be adequately represented in conservation reserves.

### **Critical habitat**

Critical habitat has not been declared for *P. askania*.

### **For further information contact**

Threatened Species Unit, Metropolitan Branch, Environment Protection and Regulation Division, Department of Environment and Conservation, PO Box 1967, Hurstville NSW 2220.  
Telephone: 02 9585 6678. Internet: [www.nationalparks.nsw.gov.au](http://www.nationalparks.nsw.gov.au)

### **References**

Bell, S.J. (2002) *The natural vegetation of the Wyong Local Government Area, Central Coast, New South Wales: vegetation community profiles*. Unpublished report to Wyong Shire Council.

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The Department of Environment and Conservation (NSW) (2005) *Draft Prostanthera askania Recovery Plan*. DEC (NSW), Hurstville.

Thackway, R. & Cresswell, I.D. (1995). *An Interim Biogeographic Regionalisation for Australia: A Framework for Setting Priorities in the National Reserves System Cooperative Program*. Version 4.0. Australian Nature Conservation Agency, Canberra.

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