Prostanthera cryptandroides

Bentham

The following information is provided to assist authors of Species Impact Statements, development and activity proponents, and determining and consent authorities, 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) and with the accompanying "Threatened Species Information" sheet.

Survey

Prostanthera cryptandroides is most easily located when flowering, although flowers are not required for identification. Non-flowering plants on ridgetops often blend into the surrounding vegetation and are easily overlooked without intensive survey work. Flowers are not required for identification.

Seedlings are cryptic and intensive survey work is required to ascertain their presence/absence in burnt areas.

If a talus slope is being searched, each rise or spur should be traversed up to the base of the cliffline, with emphasis on areas with a sparse medium-large shrub layer and open upper canopy. Surveys on ridgetops should include comprehensive searches in all exposed localities including ledges, but should ensure that "minor" habitat niches within scrubland/woodland/open–forest are also searched.

Life cycle of the species

P. cryptandroides has low germination rates and variable vegetative reproduction response and so is unlikely to recolonise a site through natural recruitment *P. cryptandroides.* is fire sensitive, adult plants being killed by fire. Fire intervals of less than 5–8 years are likely to result in sub-population declines, while fire intervals of less than 3–5 years are likely to result in *P. cryptandroides* extinction.

Prostanthera seeds are thought to be stored in the upper layers of the soil profile. Therefore the seedbank is sensitive to any disturbance to this layer, particularly in the form habitat degradation such as soil ersosion and sedimentation. *Prostanthera* is sensitive to waterborne and soil pathogens.

An activity which results in the modification or removal of associated vegetation is also likely to impact upon the life cycles of pollination vectors and therefore *P. cryptandroides*.

Threatening processes

"High frequency fire resulting in the disruption of life cycle processes in plants and animals and loss of vegetation structure and composition" is listed in the NSW *Threatened Species Conservation Act* 1995 as a key threatening process and may affect *P. cryptandroides*.

Viable local population

The minimum size of a viable local population of *P. cryptandroides* is not known. Research by Tierney (1996) on *Prostanthera* indicates that relatively small populations are capable of successful reproduction, at least in the short term.

Significant area of habitat

The following factors should be considered in determining a significant area of *P. cryptandroides* habitat:

- the number, density and population dynamics (age) of the individuals occurring there;
- the proximity of the habitat in question to existing *P. cryptandroides populations*;
- whether the habitat can be managed.

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Isolation/fragmentation

P. cryptandroides. has a relatively continuous distribution however, both natural and modified conditions may break the continuity of distribution into a series of sub-populations.

Fragmentation or isolation of *P. cryptandroides* is likely to result in reduced reproductive success, and inbreeding depression as a consequence of mating among close relatives.

Regional distribution of the habitat

P. cryptandroides occurs in the Central Tablelands and Central Western Slopes botanical sub-divisions of NSW (Benson and McDougall 1997) within a range of plant communities. It also occurs entirely within the Sydney Basin Bioregion.

Limit of known distribution

The northern distributional limit of *P. cryptandroides* is Myambat (west of Denman), and the southern limit is Glen Davis. A historic record exists for the Harvey Ranges between Manildra and Parkes.

Adequacy of representation in conservation reserves

Although a sub-population of *P. cryptandroides* occurs within the Wollemi National Park, the species is not adequately conserved. Most sub-populations are small and are vulnerable to a range of degrading influences, especially repeated fire events.

Critical habitat

Critical habitat cannot be declared for *P. cryptandroides* as it is not listed on Schedule 1 of the NSW *Threatened Species Conservation Act* 1995.

For further information contact

Threatened Species Unit, Central Directorate, NSW NPWS, PO Box 1967, Hurstville NSW 2220. Phone (02) 9585 6678 or visit our website www.npws.nsw.gov.au.

References

Benson, D.H. and McDougall, L. (1997) Ecology of Sydney plant species Part 5 Flacourtiaceae to Myrsinaceae in *Cunninghamia* 5(2).

Tierney, D.A. (1996) *Prostanthera sp. Somersby; is recovery possible*? Unpublished report, Masters of Natural Resource Management, University of New England, Armidale.