

# *Olearia cordata*

## Lander

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

*Olearia cordata* is easily identifiable throughout the year but is most readily detected during the flowering period of November to May. Survey effort should concentrate on the margins of disturbed areas where this species appears to be advantaged by the increased light and reduced competition from other native plants.

Large areas of potential habitat remain unsurveyed in wilderness terrain. Therefore survey for *O. cordata* should not be limited to areas within the existing distributional limits. Where the plant is present, the population dynamics of individuals at a site should be determined and plant heights and approximate age of individuals should be recorded. As this species can resprout from either basal stem buds or underground root buds, it may not be easy to distinguish resprouting plants from seedlings that emerged following the last fire. Its ability to sucker can also pose problems in distinguishing the number of discrete individuals. Alternative survey methods include counting the number of stems or clumps of stems, or estimating the extent of the population.

## Life cycle of the species

Burning from February to May is highly undesirable, as this would be likely to kill the new cohort of seedlings. This is of added concern because there is no seed dormancy in this species.

No information is available on the species known to pollinate *O. cordata*.

## 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 which may *O. cordata*.

Other threats include: clearing during maintenance, damage from vehicular traffic, weed invasion, changes to drainage and high levels of dust generation.

## Viable local population

The viable population size for *O. cordata* is unknown. Most populations are small (between 20-60 plants) and are often very isolated. However, small population sizes may not be the main factor in viability assessments, as the species has substantial capacity to recruit from vegetative reproduction. Therefore, populations should be considered viable unless there is evidence to the contrary.

## A significant area of habitat

The species remains inadequately conserved even though most populations are within conservation estate. The inadequacy of reservation means that essentially any area of known habitat is significant unless it is clearly a trivial amount.



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## Isolation/fragmentation

Populations of *O. cordata* are naturally isolated and fragmented. As seed is dispersed by wind, even relatively disjunct populations may be able to exchange genetic material, though this is unlikely to be a frequent occurrence. Any increase in the extent of fragmentation is clearly undesirable and exposes populations to the risk of genetic isolation and subsequent decline through inbreeding depression.

## Regional distribution

*O. cordata* occurs only in a relatively small section of the Sydney Basin Bioregion. It is generally restricted to the south-western Hunter Plateau and eastern Colo Plateau, with southern outliers in the far north-west of the Hornsby Plateau near Wisemans Ferry.

## Limit of known distribution

The historical limits of distribution for *O. cordata* are Sackville in the south, Maroota to the east, Appletree Creek in the far north of Wollemi National Park and Tootie Creek near the Colo River in the west. Recent surveys have indicated that the southern and eastern limits have contracted to Wisemans Ferry. The species may occur outside these areas

## For further information contact

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## References

Briggs, J.D. and Leigh, J.H. (1996) Rare or threatened Australian plants. Rev. ed. Australian Nature Conservation Agency and CSIRO, Canberra.

due to its patchy distribution and the existence of large areas of untracked bushland within the existing distribution.

## Adequacy of representation in conservation reserves

*O. cordata* is principally restricted to Yengo National Park (4 populations at 8 sites) and small parts of Wollemi National Park (5 populations at 7 sites). It also occurs as one population at Wisemans Ferry Historic Site and the north-western edge of Parr State Recreation Area (one site). It is not known to occur in any council reserves or on land subject to other protective measures such as voluntary conservation agreements.

Even though the majority of populations are conserved, the species is not regarded as adequately reserved (Briggs and Leigh 1996) due to the generally small size of its populations. The scattered distribution of populations undermines the adequacy of reservation.

## Critical habitat

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

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