Grevillea evansiana

McKee

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

Grevillea evansiana may be surveyed at any time of year although individual plants may be easier to detect during the flowering period (July-November). The plant's appearance and form is distinct from those species it usually grows in association with, so field identification is simple.

Surveys should focus on exposed sandstone pagodas where there is some soil accumulation (but not deep soils), or sandy areas with open vegetation in broad valleys. It is likely that additional surveys in the Pagoda Rock Complex vegetation (Benson and Keith 1990) south of Mount Coricudgy would reveal new sites, as would surveys on private land east of Olinda.

Survey effort in Wollemi National Park has been high but has not targeted *G. evansiana*. It is likely that further targeted survey work in the Ovens Creek area and the area north-east of Kandos Weir would find new populations of the species.

Life cycle of the species

The biology and life cycle of *G. evansiana* is poorly known. Mature populations in long-unburnt sites may be susceptible to population decline, although field observations do not indicate decline or death of mature plants (Lembit pers. comm.). Seedlings have been observed only in disturbed areas. The seeds of many species of *Grevillea* are short-lived so soil seedbanks may be rapidly depleted in the absence of mature flowering plants.

The species appears to recover successfully in areas that have been regenerated after disturbance.

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 affect *G. evansiana*. Other threats to populations of the species may arise from loss of habitat through land clearing, construction of trails, disturbance caused by recreational use of areas where this species occurs, and introduction of pathogens.

Viable local population of the species

The viable population size for *G. evansiana* is unknown. The known populations vary in size from single plants to several hundred plants over areas of 5ha. Information on genetic diversity within and between populations is unknown. The NPWS considers that all populations be considered viable until further information becomes available.

A significant area of habitat

Any habitat supporting populations of *G. evansiana* outside the known limits of distribution should be considered as significant. Other factors that should be considered are the proximity of the habitat to other populations of *G. evansiana*, the degree of threat to the habitat, and whether the species can recover from a particular disturbance.

NSW NATIONAL PARKS AND WILDLIFE SERVICE

May 2000

Isolation/fragmentation

Many of the existing populations of *G. evansiana* are naturally isolated reflecting the isolated nature of this species' habitat requirements. For small isolated populations fragmentation of habitat would be significant.

Regional distribution of the habitat

The known distribution of *G. evansiana* is restricted to the Sydney Basin bioregion. The species is found within the Central Tablelands Botanical Subdivision.

Limit of known distribution

The western limit is at Currant Mountain Gap and Tea Tree Flat, the northern limit is on private land north of Olinda, the eastern limit is along the Army Road south of Cyrils Rocks, and the southern limit is near Deane's Creek at the northern end of the Newnes Plateau. It is likely that further survey would reveal populations of the species beyond these limits.

Adequacy of representation in conservation reserves

Over 1000 plants are known to occur within Wollemi National Park. Nevertheless the species should be regarded as inadequately conserved until better knowledge of the breeding system and genetic diversity of the species is obtained.

Critical habitat

Critical habitat cannot be declared for *G. evansiana* 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 Keith, D.A. (1990) The Natural Vegetation of the Wallerawang 1:100 000 Map Sheet. *Cunninghamia* 2(2): 305-335.