

# NSW SCIENTIFIC COMMITTEE

## Preliminary Determination

The Scientific Committee, established by the *Threatened Species Conservation Act* 1995 (the Act), has made a Preliminary Determination to support a proposal to list the herb *Glycine latrobeana* (Meisn.) Benth. as a **CRITICALLY ENDANGERED SPECIES** in Part 1 of Schedule 1A of the Act. Listing of Critically Endangered species is provided for by Part 2 of the Act.

The Scientific Committee has found that:

1. *Glycine latrobeana* (Meisn.) Benth. (family Fabaceae) is a “decumbent to ascending herb growing to only a few cm high. Leaves are trifoliate, with sessile to subsessile leaflets 5–20 mm long and 4–12 mm wide, on petioles 5–50 mm long. Leaflets are of 2 types: leaflets of mature leaves are obovate to more or less orbicular and thin; leaflets of immature leaves are often elliptic with the upper surface glabrous and lower surface with sharp, stiff, appressed hairs. Stipules are suborbicular to broad-ovate or reniform, 1.5–2 mm long, striate. Stipellae are minute and are shed early. Up to eight small, compact, deep purple flowers are borne on peduncles 5–10 cm long. The bract is elliptic to broad-ovate, 0.5–1.2 mm long, the calyx 2.5–6 mm long, the lower three teeth about the same length as tube, while the petals are 8–9 mm long. The species generally flowers in spring in the lower elevation parts of its range and in summer in higher elevation areas. Seed pods are linear-lanceolate, 20–25 mm long and 5 mm wide, dark brown and contain 3–5 ovoid, smooth, dark brown seeds.” (Carter and Sutter 2010).
2. *Glycine latrobeana* is endemic to south-eastern Australia. It is widespread from Port Pirie in South Australia through much of Victoria and Tasmania (Carter and Sutter 2010). There is a record of collection in the Delegate area in New South Wales from 1885 but subsequent searches in the area have failed to find the species and the veracity of the record is doubtful. There are also two NSW Wildlife Atlas records dated 2002 from near Tom Groggin in Kosciuszko National Park, however subsequent searches failed to find the species at this location (K. McDougall *in litt.* November 2013). However in 2011 a population of *G. latrobeana* at Kellys Plain in Kosciuszko National Park was confirmed (K. McDougall *in litt.* October 2013).
3. The habitat of *Glycine latrobeana* in its range in South Australia, Victoria and Tasmania is grassland and grassy woodland, with the highest recorded population at 1200 m elevation a.s.l. The Kellys Plain population of *G. latrobeana* occurs within Kosciuszko National Park in natural grassland dominated by *Poa* species with emergent *Hakea macrocarpa* (communities 30 and 31, McDougall and Walsh 2007) at an altitude of 1300 m a.s.l. (K. McDougall *in litt.* October 2013).
4. The geographic distribution of *Glycine latrobeana* within New South Wales is very highly restricted. There is a single known site where the species occurs that is ~3 ha in area (K. McDougall *in litt.* October 2013). The extent of occurrence and the area of occupancy for *G. latrobeana* were estimated to be approximately 4 km<sup>2</sup>. This estimate is based on one 2 x 2 km grid cell, the scale recommended for assessing area of occupancy by the IUCN 2014.
5. The population size of *Glycine latrobeana* within New South Wales is considered to be low. A survey to estimate the Kellys Plain population was undertaken in January 2013.

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The best size estimate of this population, based on transect line searches, is 500-1000 plants (K. McDougall *in litt.* October 2013).

6. Little is known on the biology of *Glycine latrobeana*. It is likely that seed remains viable and dormant in the soil for many years and germinates in response to disturbance such as fire or flood (Carter and Sutter 2010). The Kellys Plain site where the species occurs was burnt in 2007. Flowering was observed in December 2011 but in December 2012 fruiting was underway with no flowers remaining. In January 2013 very few plants were found to be reproductive (K. McDougall *in litt.* October 2013).
7. *Glycine latrobeana* is threatened by the invasive and highly competitive exotic herb *Leucanthemum vulgare* which is common throughout the area occupied by *G. latrobeana* on Kellys Plain, occurring at cover values of up to 25% (K. McDougall *in litt.* October 2013). Future management actions to control *Leucanthemum vulgare* may include herbicide treatment which would also likely be a threat to *G. latrobeana*. Feral horses are a threat to *G. latrobeana* through direct grazing, trampling and dung deposition. Feral pigs, although currently at low population density in the Kellys Plain area, are also likely to be a threat to *G. latrobeana* (K. McDougall *in litt.* October 2013). 'Predation, habitat degradation, competition and disease transmission by Feral Pigs, *Sus scrofa* Linnaeus 1758' is listed as a Key Threatening Process under the *Threatened Species Conservation Act 1995*.
8. *Glycine latrobeana* is listed as Vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999* and a Recovery Plan has been adopted for it in South Australia, Victoria and Tasmania (Carter and Sutter 2010).
9. *Glycine latrobeana* (Meisn.) Benth. is eligible to be listed as a Critically Endangered species as, in the opinion of the Scientific Committee, it is facing an extremely high risk of extinction in New South Wales in the immediate future as determined in accordance with the following criteria as prescribed by the *Threatened Species Conservation Regulation 2010*:

## Clause 7 Restricted geographic distribution and other conditions

The geographic distribution of the species is estimated or inferred to be:

(a) very highly restricted,

and:

(d) a projected or continuing decline is observed, estimated or inferred in either of the key indicators:

(a) an index of abundance appropriate to the taxon, or

(b) the geographic distribution, habitat quality or diversity, or genetic diversity.

Professor Michelle Leishman

Chairperson

NSW Scientific Committee

Exhibition period: 28/11/14 – 30/01/15

Proposed Gazettal date: 28/11/14

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## References:

Carter O, Sutter G (2010) National Recovery Plan for Clover Glycine *Glycine latrobeana*. Department of Sustainability and Environment, Melbourne.

IUCN Standards and Petitions Subcommittee (2014). Guidelines for Using the IUCN Red List Categories and Criteria. Version 11. Prepared by the Standards and Petitions Subcommittee