Can noxious weed legislation be used to deliver biodiversity conservation? Examination of the New South Wales *Noxious Weeds Act 1993*

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Summary Weeds pose a significant threat to biodiversity, agriculture and human health. While weed legislation was initially established to address the impact of weeds on agricultural production and human health, environmental impacts were rarely addressed. This legislation has evolved with time, however, to account for such impacts, due to an increased awareness of the problem and growing community concern. Given that legislation can be used to influence management the question arises 'Are environmental outcomes actually being achieved with the current weed legislation?'

While weeds can be listed as key threatening processes and threat abatement plans (TAP) prepared for their management under the NSW *Threatened Species Conservation Act 1995* (TSC Act), this (i) is a recent advent and only a few weeds have been listed and one TAP prepared, (ii) is not an option under the threatened species legislation in other States (except Victoria where 'environmental weeds' are listed as a single process) or not utilised nationally (e.g. under the *Environment Protection and Biodiversity Conservation Act 1999*), and (iii) does not have the same legislative power as listing weed species under specific weed legislation. For example, the NSW *Noxious Weeds Act 1993* (NW Act) aims to mitigate the impacts posed by new and established weeds to the environment, agricultural production and human health, which is backed by enforcement powers.

We present an analysis of the environmental weeds currently listed under the NW Act, with respect to: their potential impact to biodiversity; their distribution within NSW; the local control area (LCA) they are listed in (i.e. local government areas); and their Control Class (i.e. the Act outlines five weed control classes, covering **prohibited**, **controlled** and **restricted** plant species). We determine if biodiversity conservation can be achieved under the Act.

Weeds that are principally managed for environmental outcomes comprise 37% of the weeds listed as noxious in NSW (or 68 of 183 weed taxa listed), compared to 50% managed for agricultural production and 11% for both. Less than 3% of weeds are declared for human health purposes. There are around 350 major environmental weeds in NSW, and since declaration only accounts for 25% of those present in NSW, many environmental weeds are not listed. This is also the case with those weeds listed under the TSC Act.

Weeds are typically not listed in all control areas where they are problematic. For example, cat's claw creeper (*Macfadyena unguis-cati* (L.) A.H.Gentry) is listed in the Sydney basin, but is most problematic on the north coast of NSW, while bitou bush (*Chrysanthemoides monilifera* subsp. *rotundata* (DC.) Norl.) is listed throughout its distribution. This creates limitations for dealing with environmental weeds under the NW Act, especially in those LCAs where the weed is not listed as noxious.

While the NW Act does not specifically establish a process for conserving biodiversity, like the TSC Act, biodiversity conservation actions can be included in the regional noxious weed plans prepared to enforce the Act by local control authorities. Thus the combination of listing individual environmental weeds and developing specific control actions, can lead to biodiversity conservation under the NW Act even if the Act has not been explicitly used in this manner in the past.

Keywords Threatened species, environmental weeds, production, health.