

Impact of Paterson's curse (*Echium plantagineum*) establishment on relative plant biodiversity indices across New South Wales, Australia

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Summary Geographically distinct random populations of *Echium plantagineum* L. (Paterson's curse) were selected across New South Wales, Australia to examine the impacts of Paterson's curse interference upon establishment and biodiversity of common competitors, including both native and non-native herbaceous species. At 16 study sites, 1 m² quadrats in undisturbed pastures, roadsides, croplands and natural areas were used to evaluate stand counts of Paterson's curse and any other co-established vegetation. Data collected included stand counts of all species present and relative growth parameters related to selected Paterson's curse plants in each quadrat (including height, leaf and stem length and number and reproductive stage). At the same location, quadrats without Paterson's curse were evaluated for relative plant

biodiversity by collecting stand counts and identifying all established species. A biodiversity index was calculated for each quadrat, using standard protocols. In the area surrounding Cooma, New South Wales, comparative counts were also taken in sites infested with another related member of the Boraginaceae, *E. vulgare* L. (viper's bugloss). At the same time, ecological surveys of Paterson's curse were conducted in the Iberian peninsula to investigate its impact on biodiversity and plant establishment in its native range. These studies will provide insight into the mechanisms used by plant species for successful invasion in non-native regions and the impacts of Paterson's curse on species biodiversity. We will discuss our findings from year one surveys performed across Australia.