Recovery of the endangered rainforest herb *Isoglossa eranthemoides* following weed management in northeast New South Wales, Australia

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Summary Weeds are recognised as major threats to native flora species and vegetation communities, but instances of extinction resulting from weed competition are rarely documented. We described weed management history for Booyong Flora and Fauna Reserve, a remnant of subtropical rainforest in the northeast New South Wales Big Scrub region. We then estimated population size for the rainforest herb Isoglossa (*Isoglossa eranthemoides* (F.Müell.) R.M.Barker) (Endangered, NSW and Commonwealth) using randomly located plot samples. Although much history and baseline data is informal, we present convincing evidence of recovery of Isoglossa following weed management, in particular the control of the ground storey weed *Tradescantia fluminensis* Vell. Weed management has been staged since 1997, with primary control now almost complete and maintenance ongoing.

In 13 ha of habitat, the Isoglossa population was once considered to number about 50 individuals (1993–94), increasing to more than 3000 by 2000. In January 2016 we estimated the population at more than 150,000, approximately double our 2014 estimate.

As is the case for all small remnants, weed reinfestation is inevitable and, in this floodplain location, weed propagules will periodically be water-dispersed throughout the remnant. The recovery of Isoglossa is likely to quickly reverse unless weed management is maintained.

From this example, we conclude that weed management over about 20 years in Big Scrub rainforest remnants is likely to have prevented local extinctions of Isoglossa. Recovery actions for Isoglossa will also benefit the regeneration of other threatened rainforest species and ecological communities.

Keywords *Isoglossa eranthemoides, Tradescantia fluminensis*, recovery, weed, competition, extinction.