Measurement of off-target damage to threatened *Tetraria australiensis* from the management of **Watsonia borbonica.* using 2,2, DPA herbicide

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A research trial was established to determine whether the semi-selective herbicide, 2, 2 DPA, would effectively control *Watsonia borbonica* without off-target damage to the declared rare sedge, *Tetraria australiensis*.

Tetraria australiensis was presumed extinct until the population at Watkins Road Nature Reserve in Mundijong was recorded flowering after a wildfire in 1993. The Watkins Road Nature Reserve population is the largest of the 11 known populations and is currently under threat from invasion by W.borbonica, an invasive geophyte that is established in very dense stands across the site. The majority of extant *T. australiensis* populations are located on the heavier soils of the eastern side of the Swan Coastal Plain in plant communities that are currently or potentially threatened by invasion from *Watsonia spp*.

A total of 12 permanent quadrats were set up in recently burnt and long unburnt bushland areas stratified for the presence of *W. borbonica* and *T. australiensis* at Watkins Road Nature Reserve. Controls were established and 2, 2 DPA was spot sprayed on *W. borbonica* at different rates in the burnt and unburnt areas in October 2009. Interim results (Jan 2010) detected no mortality or health effects to *T. australiensis*. There was no significant difference between treatment and control plots for *T, australiensis* cover, frequency, health rating or flowering. Results for *W. borbonica* have been delayed until plants begin actively growing in winter 2010 following the annual period of summer dormancy.

Final results in winter 2010 will demonstrate either an effective management technique for *W. borbonica* control amongst *T. australiensis* populations or a requirement for further trials of other herbicides. This research will fulfil requirements of DEC Conservation Advice for the Recovery of *T. australiensis*; that plans are developed and implemented at the regional and local scale for weeds that threaten *T. australiensis* and that any techniques used for weed management do not have an adverse impact. Final results of this research will be communicated to all land managers of *T. australiensis* populations.

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