

**Plant communities and threatened flora of seasonal clay-based wetlands of south-west Australia; weeds, fire and restoration possibilities.**

*Kate Brown and Grazyna Paczkowska.*

Department of Environment and Conservation, PO Box, 1167 Bentley Delivery Centre, WA, 6983.

The plant communities of seasonal clay-based wetlands of south-west Australia are amongst the most threatened in Western Australia. Over 90% have been cleared for agriculture and urban development with weed invasion a major threat to those that remain. The South African geophyte, *Watsonia meriana* var. *bulbillifera*, is particularly invasive within these communities forming dense monocultures displacing the herbaceous understorey. Significantly over 50% of the flora of clay-based wetlands are annual and perennial

herbs and include a number of threatened taxa including *Centrolepis caespitosa*, *Schoenus natans*, *Craspedia argillicola* and *Aponogeton hexatepalus*.

Meelon Nature Reserve, a remnant clay-based wetland on the Pinjarra Plain 200 km south of Perth, has been the focus of a five year study investigating the effectiveness of the herbicide 2-2DPA ( Dalapon<sup>®</sup>, Propon<sup>®</sup>) in controlling populations of *W. meriana* var. *bulbillifera*. The impacts of the herbicide on native flora, the response of the native plant community to *W. meriana* var. *bulbillifera* removal, and the compounding impacts of fire have also examined.

In the first year of the control program, a 97% reduction in the cover of *W. meriana* var. *bulbillifera* was recorded. Importantly this was associated with no significant decrease in the diversity or abundance of native flora. Eighteen months after the initial herbicide treatment an unplanned wild fire burnt through the reserve, facilitating a significant increase in cover and diversity of native species in the treatment areas. Indications are that plant communities of the seasonal clay based wetlands of south-west Australia have the capacity to recover following major weed invasion and that fire can play a role in the restoration process. Implications for the management of the rare flora of clay-based wetlands across south-west Australia will be discussed.

# Threatened Species Research Forum



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A Review of WA Government Research into Threatened Species