

Cane needle grass, *Nassella hyalina*, on North Wagga Flats.

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Introduction

North Wagga Flats is a 34 ha riparian reserve located only 2 km from the Wagga Wagga central business district. The vegetation is a river red gum community with some open grassy areas. It is important because the reserve offers the potential to provide a viable core habitat area for fauna using the narrow riparian habitat along the Murrumbidgee River. Threatened species such as squirrel glider, superb parrot, swift parrot and barking owl have been seen either in the reserve or in the neighbourhood. Squirrel gliders in the Wagga Wagga Local Government Area are classified as an Endangered Population. Since 2001 there has been a major project to restore the native vegetation and habitats so that the reserve can support these threatened species.

During the project more than 2,000 understorey tree and shrub seedlings of nine species were planted and 10.5 ha sown with 14 native grass species of local provenance. A major effort was invested in the control of willows, woody weeds and ground cover weeds.

The problem

Nassella hyalina was discovered on the Flats in 2003 and this infestation is one of eight known sites in Australia. It is found as scattered clumps or small patches over about 20 ha of the reserve with other clumps of the weed in the adjacent Travelling Stock Reserve on the southern side. This weed is a major threat to the revegetation efforts to restore the native grass habitats on the Flats.

Leaves of *N. hyalina* are flat or slightly rolled, up to 200 mm long on erect cane-like stems. The ligule is small, 0.2-2.0 mm long, with a few short hairs. Seeds are 4.0-5.0 mm long and have a sharp bristle awn up to 40 mm long.

Introduced from South America *N. hyalina* is related to *N. trichotoma* (serrated tussock) and *N. neesiana* (Chilean needle grass) and, with its tussock growth habit and prolific seed production, it has the potential to become a serious pasture weed. *Nassella hyalina* spreads through dispersal of seeds and cleistogenes (seeds formed in the stem). Long sharp awns on the seeds readily attach to clothing, fur and machinery and this ensures that the weed is easily spread.

Initial control of *N. hyalina* on the Flats was carried out on 10 March 2005 by spraying with Roundup®

(360 g/L), rate 1 L/100 L water (1%) and subsequent spraying on 27 January 2006. Grazing, burning and slashing are ineffective methods of control due to the presence of cleistogenes.

Progress to date

A 1 ha site sown in September 2002 has shown good establishment of red grass and windmill grass with scattered plants of kangaroo grass. This result has been achieved with control of annual brome grass and wild oats with Roundup® and or slashing later in the spring. *Nassella hyalina* is not present in this 1 ha area, however, it occurs over most of the remaining 9.5 ha sown to native grasses in 2004 and 2005.

The project has successfully contributed to restoring the native vegetation and habitats on this riverside reserve. It has also raised several important questions regarding the long term management and enhancement of the native habitats. For example;

- What annual maintenance is required or can the native grasses survive and outcompete the weeds without human interference?
- What weed species require special control strategies?

Wagga Wagga City Council invites Institutions to use the North Wagga Flats as a study site for weed control and other management studies. Results from such studies would have application to a much wider area across the region, as well as developing a long term strategy for managing the Flats which was an objective of the project. ♡