

# Buffel grass invasion across arid lands: evidence of impacts on ecological and cultural values

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**Summary** Across arid ecosystems, where traditionally weeds have been slower to take hold, highly invasive grasses are dominating the landscape and negative impacts are emerging. Exotic grass invasion is changing fire regimes and reducing floristic diversity, however, the more indirect impacts on animals, ecosystem processes and cultural values of indigenous peoples whose lives are closely intertwined with country have not been well documented. Anangu people in the Anangu Pitjantjatjara Yankunytjatjara (APY) lands in north-west South Australia are concerned about the rapid invasion of buffel grass (*Cenchrus ciliaris*) throughout much of their ancestral lands. Culturally Anangu see invaded areas as buffel grass desert where wildflowers and food plants now do not exist. In response, our research aims to investigate the ecological impacts of invasion on animal and plant communities, including aspects which are important to Anangu. Birds, reptiles, small mammals, invertebrates including ants, and vegetation were all re-monitored at sites originally surveyed in 1994

and 1995 before buffel grass took hold, with some sites now heavily invaded and some are still free from invasion. We worked collaboratively with Anangu to document traditional ecological knowledge of how landscapes have changed with buffel grass invasion and how this relates to the survey results. Drone imagery was also used to assess the level of invasion for each site. Preliminary results show whilst plant communities are converging into a similar habitat type with buffel grass invasion, animal communities are varied in their response. Anangu knowledge, such as concern for the loss of trees through buffel-fuelled fires, and the change in vegetation structure which affects their ability to hunt bush foods, is combined with the dataset to identify species and values most at risk from buffel invasion. Drone imagery provides strong evidence for how buffel grass is dominating arid ecosystems at the patch and landscape scale.

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