

FACT SHEET 5: Paddock trees

Pest paradises or bastions of biodiversity?

INTRODUCTION

Paddock trees are an iconic feature of the sheep-wheat belt west of the Great Dividing Range and paddock tree landscapes are iconic throughout swathes of South Australia, Victoria, NSW and Queensland. In fact paddock trees are present across one third of agricultural land in the temperate zone of Australia (Local Land Services 2014).

Paddock trees are some of nature's great survivors. In many cases they are trees that have stood since before European colonisation, and were once part of a vast woodland ecosystem that has now been largely replaced by agriculture.

But paddock trees will be one of the big losers from the new *Biodiversity* and *Local Land Services Amendment* Bills should they become law. Advertisements by NSW Farmers have singled out paddock trees as reservoirs for pests and weeds, and say their removal will increase biodiversity values on farms because of the removal of pests and weeds.

NSW Farmers also say that individual paddock trees are impediments to efficient farming and cost between \$300 and \$1200 each per year¹ in lost revenue. Put another way, if a farmer was to clear 100 paddock trees he or she could increase farm revenue by up to \$120,000 per year for ever more. This argument has been used before, in Victoria in 2011 (Environmental Farmers Network 2011).

But what does the evidence say? Here we take a look at the trends in paddock trees in the landscape, the current management framework for paddock trees and their role in nature and agriculture.

TRENDS IN PADDOCK TREES

Because of the fact they are often woodland relics from the 1800s, lots of paddock trees are big and old. The number of paddock trees in the agricultural landscape is declining at the rate of 0.54 - 2.5% per annum (Freudenberger and Ozolins 2000) due to old-age, salinity, soil compaction, nutrient loads, insect attack and clearing (Gibbons and Boak 2002). This means that old paddock trees could entirely disappear within 100 years (Riverina Highlands Landcare Network). This would result in millions of hectares, which currently supports tens of millions of trees, becoming treeless (Fischer et al. 2009). This is important as paddock trees—both individual trees and clumps—account for a significant amount of tree and woodland cover in agricultural landscapes (Gibbons and Boak 2002, Manning and Fischer 2010). The paddock tree decline is exacerbated by the fact that there is little regeneration of paddock trees in much of the landscape due to grazing and fertilizer application (Fischer et al. 2009).

CURRENT AND PROPOSED MANAGEMENT OF PADDOCK TREES

Clearing of paddock trees in an agricultural area is currently already permitted as a Routine Agricultural Management Activity (RAMA) (NSW Office of Environment and Heritage 2015). The RAMA permits the clearing of isolated paddock trees (a single tree or group of up to three trees that are over 50m from the next tree) that are under 80cm diameter at breast height (DBH). 200 trees can be cleared per 1000ha per notification. Trees greater than 80cm DBH cannot be cleared, neither can clumps of trees within an area greater

¹https://www.youtube.com/watch?v=_8Bs71bWoGM

than 0.25ha, trees on vulnerable land or trees near watercourses.

The proposed new legislation will increase the number of codes under which paddock trees can be cleared to five: the 'Cropping Efficiency', 'Grazing Efficiency', 'System Efficiency' 'Equity' and 'Farm Plan' codes². These codes provide for 'islands', 'peninsulas' and single trees to be cleared and provides for the clearing of trees over 80cm DBH to take place under certification. The clearing of paddock trees—and clumps of trees—is therefore likely to substantially increase under the new framework.

DO Paddock TREES MATTER?

The short answer is yes—for both nature and farmers. In fact, despite their appearance as lonely trees in a sea of agriculture, scientists believe that paddock trees are 'keystone' features in the landscape. This is because their ecological importance is disproportionately large compared to their numbers and area of cover. Compared to sites with no trees, even a small increase in the number of trees from 0-5 in an agricultural landscape markedly increases the numbers of species of bats and birds present. In fact, the presence of a single tree can double the number of bird species (Fischer et al. 2010)!

Paddock trees provide ecological functions at a local scale by providing habitat for animals, at a landscape scale by increasing connectivity (they act as 'stepping stones' that animals can use to cross an otherwise inhospitable agricultural landscape) and even provide continuity through time (Manning et al. 2006). This connectivity provided by paddock trees is likely to become even more important to animals as climate change progresses (Manning et al. 2009). Paddock trees provide large tree hollows, which are very important for lots of Australian animals including the threatened superb parrot that nests in big paddock trees in agricultural landscapes (Manning and Lindenmayer 2009). For superb parrots, and large cockatoos such as the endangered red-tailed

black cockatoo, dead paddock trees are also very important for nest sites³ (Manning et al. 2004). In fact, tree hollows are so important that the loss of hollow-bearing trees has been identified by the NSW Scientific Committee as a Key Threatening Process (NSW Scientific Committee 2007).

But wild animals are not the only beneficiaries from paddock trees: farmers reap significant rewards too. Paddock trees are important in soil conservation and have a positive influence on soil properties such as carbon, nitrogen and phosphorous levels (Wilson 2002). They provide a microclimate (Manning et al. 2006) and shade for stock (Local Land Services 2014), and many native animals that utilise paddock trees, such as owls, are useful to farmers (Law et al. 2000, Local Land Services 2014).

ARE THEY RESERVOIRS FOR PESTS AND WEEDS?

Despite there being a large volume of scientific literature on paddock trees, we could find no studies to support the theory that paddock trees harbour pests and weeds. It is likely that weeds will grow under paddock trees due to the trees being used as perches by birds that disperse seed. But it is unlikely that paddock trees will be a greater source of weeds and feral animals than any other type of native vegetation—including offset sites. Current laws allow for the removal of weeds without approvals.

OFFSETTING Paddock TREES IS NOT POSSIBLE

Offsetting as a concept is fraught with problems, but offsetting trees that are over 200 years old is even more problematic because it will take over 200 years before the offset tree can provide the same habitat value to wildlife. Tree hollows are a prime example of this: large hollows can only form in large old trees. So the replacement of high quality complex habitat, such as a paddock tree, with lower quality regrowth does not make a suitable offset (Gibbons and Lindenmayer 2007). This problem is known as the time lag, and it

²<https://www.landmanagement.nsw.gov.au/simplifying-land-management/lls-codes-of-practice-overview/#codes-overview>

³<http://www.redtail.com.au/nesting.html>

means that offsetting is not based in ecological reality: the species that depend on the paddock tree may be unable to persist until the offset can provide the same habitat. The time lag has been repeatedly identified as a key flaw in offsetting

because it means the offset does not achieve the key goal of no net loss (Gibbons and Lindenmayer 2007, Maron et al. 2010, Maron et al. 2012, Maron et al. 2016).

CONCLUSION

Accelerating the loss of paddock trees is contradictory policy on several fronts:

1. It exacerbates a known Key Threatening Process (the loss of hollow-bearing trees);
2. It undermines investment in conservation efforts for threatened species;
3. It undermines previous investment by the NSW government to reverse the loss of paddock trees (Riverina Highlands Landcare Network), and appears to undermine a new initiative by the Commonwealth government to increase tree cover on farms⁴;
4. It contradicts educational efforts by government over many years as to the importance of retaining and regenerating paddock trees (Local Land Services 2014).

Because the broader suite of paddock tree values is not considered in the new legislation, short-term economic gains will likely outweigh long-term non-cash returns and result in a loss of tree cover across a large swathe of inland NSW. Replacing regulation with incentives for protection can only work if all of the values are accounted for: flawed accounting results in flawed outcomes. Offsetting will not be able to reduce the impacts of clearing paddock trees because of the time lag in replacing the lost habitat.

This is a particularly sad outcome from the reforms, as the ecological importance and the scattered nature of paddock trees offer an opportunity for genuine integration of farming and conservation (Manning and Fischer 2010). It is for this reason that our original submission to the Biodiversity Review panel urged the government to consider incentive payments for farmers dependent on their maintaining or establishing a minimum density of paddock trees per hectare.

Prepared by the National Parks Association.

For more information please visit our website at <http://www.StandUpForNature.org.au>

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⁴<http://www.darrenchester.com.au/media-room/1804-tree-mendous-new-r-d-project>

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