



Wildlife Notes



DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT

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Information Notes for the *Land for Wildlife* Scheme in Western Australia

Paddock Trees and Wildlife

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INTRODUCTION

In many parts of the south-west of Western Australia, past clearing practices have left trees isolated singly or in small clumps within paddocks. These 'paddock trees' perform a number of ecosystem services that contribute to sustainable natural resource management.

Farmland with paddock trees is often termed 'parkland cleared', as this type of treed landscape was deliberately created in gentleman's parks in Europe, and for many people it represents the most aesthetically appealing type of farmland. This landscape beauty is important for personal well-being and it also helps to define the overall character of an area, giving a distinctive 'sense of place'.

Of course, trees retained within natural vegetation is the ideal situation for wildlife habitat but this is not possible across all parts of a landscape that has been extensively developed for agricultural purposes. In some areas, especially in the south-west's wool belt, paddock trees perform an important role in wildlife conservation.

WHY ARE Paddock TREES VALUABLE FOR WILDLIFE CONSERVATION?

Paddock trees are often old – they may be the only old trees remaining in an area - and have holes and hollows, perching, roosting and nesting sites, that are very valuable for a number of species, particularly birds.

Many native birds depend on them for feeding, breeding and roosting - the endangered Muir's corella, found around Lakes Muir and Unicup in the wetter south-west, depends almost entirely on scattered paddock and roadside trees, while in the wheatbelt, Carnaby's cockatoo relies heavily

upon salmon gums in bush remnants amidst farmland and on road and rail reserves.

Because of the extra nutrients contributed by the farming operation, the trees may have especially nutritious foliage, or flower very heavily. Thus they can provide large resources for native fauna, either directly or because the birds eat the insects supported by the trees. Research has

shown that a single marri or jarrah tree may support up to 440 different species of invertebrates! Marri is very important in this respect, as marri flowers in summer, when little else is in bloom, and provides a vital carry-over resource for nectar-eating birds such as honeyeaters.

As well as being important refuges and breeding sites in their own right, paddock trees may also provide stepping stones for other, bush-dependant fauna to move

between isolated bush patches that would be too small to sustain them on their own year-round. Maintaining this landscape connectivity is vital to the survival of many animals.

HOW VALUABLE ARE Paddock TREES TO LANDHOLDERS?

Paddock trees, together or in small groups, can be valuable to a stock operation as they provide shade and shelter from inclement weather, thus reducing stress. Beneath the trees there is a more stable microclimate so that the soil is relatively cooler in summer and warmer in winter. Groups of trees cut the wind, so that the windchill factor is always less in shelter. In summer, even a single tree may provide much needed shade.



Sheep enjoy the shade.

These factors combine so that stock in paddocks with shelter do not need to use as much energy to regulate their body temperature, thus they use feed more efficiently for growth. Sheltered off-shears wethers require only about one third of the amount of supplementary feed to maintain bodyweight compared to those that are unsheltered. Cold stress reduces wool growth, limits liveweight gains and reduces dairy cattle milk yields. Heat stress reduces liveweight gain in cattle and reduces wool growth in sheep. At lambing time, good shelter can literally save lives.

Many of the birds that use paddock trees are insectivorous, such as magpies, large honeyeaters and cuckoo-shrikes. Grey fantails, willy wagtails and mudlarks can often be seen swooping out and taking insects stirred up by stock, including blowflies. On the topmost branches woodswallows and rainbow bee-eaters perch between bouts of spectacular aerial manoeuvres while they take high-flying insects. At night, nocturnal hunters such as owls swoop to catch mice. Paddock trees also provide vital habitat for a number of species of bats that forage over open areas. These bats are significant predators of night-flying insects, one bat can consume up to 600 small flying insects in an hour. Without somewhere close by to roost or perch, this natural pest control will not happen, other than close to areas of remnant vegetation.

Paddock trees are often prolific nectar producers and so valued by apiarists as well as nectar-feeding birds.

Groups of trees contribute to the stability of the water table in their vicinity. In other words, they use the water where it falls, so that it does not contribute to waterlogging or salinity downslope. These qualities will be most significant if the trees are on recharge areas such as ridges and the fringes of rock outcrops.

DON'T THEY GET IN THE WAY OF MACHINERY?

It is true that as machinery has increased in size, the presence of paddock trees in predominately cropping paddocks has become more difficult to deal with. It is harder to deviate from a straight line to go around them, and during this manoeuvre some ground will be treated twice, an inefficient practice. In pasture paddocks this issue does not arise.

Nevertheless, the retention of strategically placed paddock trees, especially clumps of trees, can provide a range of benefits to wildlife and the farm enterprise, while having a minimal impact on the farm operation. The removal of a few selected trees may be an option in some situations, but this should be carefully planned so that unnecessary tree removal is avoided. It may be possible to determine which individual trees, or groups of trees, have the greatest wildlife value. Large trees with hollows are always important. Trees that form stepping stones between patches of remnant vegetation will also have a high value.

MANAGING Paddock TREES

Stock camping beneath trees compacts the soil, decreases water infiltration and may damage surface roots as well as raising the soil nutrient level. This may cause stress to the trees and render them less able to cope with droughts. In areas such as lambing paddocks, where shelter is a vital resource, one tactic is to fence groups of trees for 5 years, to allow the natural soil processes to recover, then remove the fence and place it around another group of trees. For some tree species, such as marri or flooded gum, this will also permit the survival of regenerating seedlings, thereby building a more sustainable tree cluster for longer-term benefits.

Stock will damage the bark on the lower part of the tree trunk – rams, horses and camels are notorious for this – to such an extent that they can kill the tree. If these isolated trees are to be retained, it will be necessary to erect a fence a couple of metres out from the trunk, or wrap chicken netting directly around it.

But nothing lives for ever. As part of the long-term farm plan, new groups of trees should be planted where they can provide the greatest benefit to farm production as well as wildlife habitat. The management of paddock trees for long-term benefit is as much a part of good property management as actions such as the maintenance of good soil structure or weed control.

SUMMARY

Scattered trees within farmland contribute to a sustainable agricultural system as well as to the aesthetics of the landscape and provide important resources for wildlife. They should be managed so as to continue to contribute to the local ecosystem.

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Photo: Avril Baxter.

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FURTHER READING

“Tree hollows and wildlife conservation in Australia.” Philip Gibbons and David Lindenmayer. 2002. CSIRO Publishing, Collingwood.