Habitat Values of Old-Growth Forests

by Danny Biggs

How Nesting Hollows Are Formed

Many species of native fauna use tree hollows as nesting chambers or for shelter. These species include many different birds, possums, gliders, bats and other small mammals. The process by which hollows are formed is typically initiated by wood fungi and/or termites and results in a rotted centre of the branch or trunk. When moisture such as rainfall is introduced to the rotted wood, it drains the debris out of the tree under gravity and forms a cavity.

What Kind Of Trees Do Our Native Species Need?

A recent paper by Mawson & Long (1994) shows that the trees used by the long-billed corella were large and very old, in fact so old that most were either fully matured trees with dead limbs and an open canopy, or trees approaching senescence. The estimated age of these nest trees based on known growth rates ranged from 73 years to over 1300 years. The lowest average estimated age of nest trees recorded for any of the parrot species was 275 years, and 446 years for the cockatoo species. No nest hollows were recorded in trees with dense, healthy canopies. Other bird species (regent parrot, Port Lincoln ringnecks, western rosellas and red-capped parrots) showed a preference for nesting hollows in healthy trees with only a few dead limbs.

The time required for hollows to form in trees is determined partly by natural processes such as fungi and termite attack and partly by the growth rate of the tree, neither of which can be hastened. If there is no provision made for the replacement of dying trees or insufficient time for trees to reach the minimum size at which hollows form before they are cut down, then at some time in the future no suitable nesting hollows will be available.

Threats To Our Old-Growth Trees

There are two main threats to large, old trees in Western Australia: logging in the higher rainfall areas and the combined effects of rural dieback (soil salinity, water stress, herbicides and the resultant insect attack of weakened trees) in agricultural districts. There will soon be no significant areas of pristine, unlogged forest remaining other than those preserved in national parks or conservation reserves. The greatest problem associated with this slow loss of suitable nesting trees is that it may well go unnoticed for a long time. Many parrots and cockatoos are long lived and may well survive for many years although there are no nesting hollows for breeding. We will see them flying around, but only when the current generation of old birds dies will we notice that the population has undergone a sudden decline. By this time it will probably be too late to reverse the process.

There Are Solutions!

While primary products derived from forestry and agriculture are vital to our economy the policies and methods employed to obtain them are in question. It has been suggested that logging be carried out in such a way that trees unsuitable for logging and reserves and creek lines should remain linked by unlogged corridors. Such a system would help preserve as great a range of habitats as possible and permit wildlife to disperse from one reserve to another.

The coordinated management of remnant native vegetation throughout the agricultural district is vital. Government authorities, in conjunction with farmers and leaseholders, must find the resources to manage these thousands of small patches of native vegetation. The landcare concept is an excellent example of what can be achieved.

The Future

The future is uncertain for many native species that rely on old-growth trees for survival. Current commercial logging policies don't allow sufficient time for suitable nesting hollows to develop, and many remnant stands of trees outside logging areas are not regenerating.

Action can be taken today to slow and possibly prevent the continued loss of existing trees with nest hollows, but there is a great deal more that needs to be achieved to allow new trees to germinate and grow to the size and age required to form hollows. ■

Reference

Mawson, P.R. and J.L. Long (1994). Size and parameters of nest trees used by four species of parrot and one species of cockatoo in south-west Australia. *Emu*, Journal of the Royal Australasian Ornithologists Union, Vol. 94, Part 3, September 1994, pp. 149-155.