Endangered Species And Our Old Growth Forests

WA Forest Alliance *September 1998*

All of the biodiversity of our forest ecosystems evolved over the millenia in old growth forest environments.

Over a relatively short period of less than 200 years, those old growth forest habitats have been destroyed or fragmented and degraded by clearing, road construction, clearfelling, prescribed burning and mining. Along with these direct impacts have come other threatening processes e.g diseases such as dieback; introduced predators such as foxes; salinity; and climate change. As old growth forest habitats are lost, degraded and exposed to various threatening processes, more and more species will become vulnerable to extinction.

Many forest species now fit into one or more of the following categories:

- extinct throughout the forests *e.g. bilby*
- previously much more widely distributed but now found only in the forest region, which is their last refuge *e.g. chuditch*
- greatly reduced populations and distributions (widespread local extinctions) *e.g. tammar wallaby*
- requiring ongoing management intervention (e.g. fox baiting) to maintain populations *e.g. woylie*
- likely to become locally extinct or increasingly at risk of extinction if current practices continue *e.g. Baudin's cockatoo*

What the Scientists Say

1. Is extinction a problem in our forests?

"Several recent reports in the Australian electronic and print media have suggested that there have been no extinctions in native forest environments and, as a result, implied that forestry operations have had no impacts on biodiversity...However, the contention that there has been an absence of impact warrants closer scrutiny from ecologists for a range of important reasons...There is evidence of **localised extinctions** of taxa from extensive areas of timber production forest...Even though a given species may not be totally extirpated as a result of logging, its numbers may be so depleted that it can no longer interact significantly with other species **['functional extinction']**...Large declines in species abundance may have major consequences for key ecosystem processes...[Studies suggest] the existence of an **'extinction debt'** whereby a species may eventually be lost well after disturbance events or processes have taken place. Thus it is possible there are long term effects of current logging operations and that future losses in forest biodiversity may occur in response to activities taking place now...Thus, suggestions that there have been no impacts of [logging] because, as yet, there may have been no extinctions is an extremely poor and insensitive measure of the ecological sustainability of the industry" *Dr P. Gibbons and Dr D.B. Lindenmayer, Institute of Foresters Newsletter, 1997*

"...local extinctions are widespread in the [South West forest] region, such as the woylie and the numbat from the Blackwood Plateau...The presumed reason for the disappearance of the bilby, the burrowing bettong, the rufous and western bristlebirds, the noisy scrub-bird, the western whipbird, the ground parrot and the malleefowl, is the degradation of their habitat through frequent fires...**It is clear none of these species would be able to survive under present forest management conditions** ...Many endangered species, such as the chuditch, the numbat, the woylie, the tammar wallaby, and the yellow-bellied frog, **are likely to be directly affected by forestry operations**. Other species which were relatively widespread in the region have suffered significant decline and are now uncommon, such as the brushtail possum, brush wallaby, quokka, water rat, brush-tailed phascogale, red-tailed black cockatoo and Baudin's white-tailed cockatoo." *Dr Jean-Paul Orsini, Threatened Species Network, 1994*

"The Inquiry found that logging is likely to increase the risk of extinction of some species...The National Association of Forest Industries cited the absence of recorded extinctions as evidence that proper forest management contributes little risk. This observation should be treated with caution for several reasons: forest ecosystems contain many different types of organisms and very few have been monitored for any length of time; the absence of recorded extinctions is not in itself evidence

that there have been no extinctions; the absence of recorded extinctions does not mean that future extinction risk is low, especially under changing environmental and management conditions; **the conversion of native production forests from mostly old growth to mostly regrowth is continuing and the effect on old growth-dependent species cannot yet be determined."** *The Resource Assessment Commission, Forest and Timber Industry Inquiry Final Report, 1992*

2. Hollow-dependent species

"Wardell-Johnson started research on the age to formation, and cause of hollow formation in karri and marri trees but it was discontinued...the youngest karri tree found to include hollows was 168 years...The timing and cause of formation of hollows in karri, marri and jarrah trees requires research commitment as preliminary work suggests **a much longer period required in the formation of such hollows than previously thought."** *Wardell-Johnson and Christensen (CALM), (uncensored draft), 1992*

"There is no baseline information on the natural occurrence and use of hollows by vertebrates in mature forests...The (CALM) figure of '15 habitat trees per five hectares' comes from a single study of the requirements of a single species...It takes no account of the other 19 mammals and 31 bird species [51 species total] that require hollows for breeding and shelter in the south west forests." *Report on CALM's proposed forest management plans by the Technical Advisory Panel to the Environment Protection Authority, 1992.*

"Suitable hollows are defined by depth, with deeper hollows being used more frequently. Suitable hollows first develop in jarrah trees at about 300 years of age and in marri trees at about 200 years. **The average age of trees inhabited by possums was estimated at about 500 years for jarrah and 400 years for marri."** *Wardell-Johnson (CALM) and Nichols, 1992*

"Clearfelling for woodchipping removes the old trees and, though regenerating forest will provide sufficient food, current rotation periods will not allow time for hollows suitable for nesting to develop... The presumed longevity of the species [Baudin's Black Cockatoo] may, as yet, be masking insufficient recruitment rates." *The Royal Australasian Ornithologists Union, 1992.*

"Some of the subspecies' [Red-tailed Black Cockatoo] habitat has been cleared for agriculture but **the main threat may be from forestry operations**. In the woodchipping licence area between Bridgetown and Walpole, which includes about one quarter of the subspecies' range, management involves a rotation period that will not leave sufficient time for nesting hollows to form." *The Royal Australasian Ornithologists Union, 1992*

"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. **In view of current timber production strategies and management policies for remnants of native vegetation there is a real possibility that nest hollows may be in limited supply in some areas in the near future.** To ensure a continued supply of nest hollows for parrots it will be necessary to modify existing timber production strategies in forests..." *P.R. Mawson and J.L. Long, study published in EMU, Royal Australasian Ornithologists Union, 1994*

"A major conclusion from our study was that the array of issues associated with the retention of trees with hollows within Australian wood production eucalypt forests are considerably more complex than presently appreciated by the majority of forest and wildlife managers. **Indeed it appears likely that most existing prescriptions for the retention of trees with hollows in logged sites are inadequate** and may not either; (1) ensure the long term perpetual supply of a range of types of hollow trees and/or (2) provide the necessary habitat conditions to support viable populations of some species of hollow-dependent fauna" *Dr P. Gibbons and Dr D.B. Lindenmayer, Forest Management and the retention of trees for the conservation of hollow-dependent fauna, 1995*

"...it seems clear to me that the current rate of harvest in jarrah forests cannot be sustained for long at its current level...A similar management philosophy was once imposed on the forests of the southern U.S. and the Pacific Northwest of the U.S...the long term persistence of several species of forest fauna fell into question, despite policies and laws that spoke of multiple use, sustainable management, and wildlife protection...**non-timber values associated with large trees [in the jarrah forest] are not being provided on these lands**". *William McComb, Professor of Forest Science, Oregon State University, 1994*

"Felling and burning produce an inhospitable habitat within the coupe with the result that fauna within the area are removed...Very few animals are able to live on bare burnt areas and few of those species that lived there formerly are able to adapt by moving to nearby uncut forest areas...many fauna species will only be present in 10% of their former numbers existing entirely within the uncut areas." *WA Forest Department, Woodchip EIS, 1973*

NOTE: This paper deals mainly with larger vertebrate fauna. Many other aspects of biodiversity e.g. flora, invertebrates, fungi, are likely to be similarly threatened.