

Forest Facts

South-East
Queensland

No. 4.4

This information is mainly derived from Comprehensive Regional Assessments carried out for the SEQ Regional Forest Agreement.

prepared by

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Habitat Trees



Habitat trees contain hollows used by forest fauna. It has been estimated that, in Australia, 42 per cent of mammals, 28 per cent of frogs, 28 per cent of reptiles and 17 per cent of birds are dependent on tree hollows. Trees may take 200 years or longer to form hollows big enough for the larger tree-dwelling marsupials and for larger birds such as the Glossy Black Cockatoo and Powerful Owl. Hence, habitat trees are most common in old-growth forest.

The importance of conserving old-growth forest gained international public attention in the 1970s with the Spotted Owl controversy in USA's Pacific North West. At least twenty years ago, Australian scientists drew

attention to the impacts of timber harvesting on fauna dependent on tree-hollows for denning, roosting and breeding. Hollows take much longer to form than the length of a typical logging cycle. This means habitat trees and the dependent fauna will disappear from production forests unless adequate provision is made for their retention and replacement.

In SEQ, old growth is highly depleted. The Comprehensive Regional Assessment (CRA) project identified only 2.7 per cent of the total forest area as 'old growth' and a further 5.8 per cent as 'likely old growth'. Of the old growth and likely old growth that remains, 44 per cent is

Habitat Trees in South-East Queensland

Recent studies in South-East Queensland show —

- at least 75 species of fauna in SEQ are dependent on tree-hollows for survival
- hollow-dependent fauna species include 40 per cent of the mammals, 20 per cent of the birds, and at least one reptile
- up to an additional 60 species make use of tree-hollows
- numbers of habitat trees may already be below levels necessary for long-term viability of dependent fauna
- 8–12 habitat trees per hectare are required to maintain fauna at natural densities
- on average, there are only 5.5 habitat trees per hectare on State Forests, more than half of which are dead
- DNR's Code of Practice for timber harvesting from State Forests requires retention of only 4–6 habitat trees per hectare
- Greater Gliders are absent where there are fewer than 6 habitat trees per hectare
- the highest requirement for habitat trees is in the more productive, 'wet sclerophyll' forest types (rainforest with eucalypt emergents)
- old growth is highly depleted in SEQ with identified 'old growth' and 'likely old growth' amounting to just 8.5 per cent of the total area of forest in the region

outside conservation reserves and State Forests on a range of tenures including freehold.

Determining the number of habitat trees that need to be retained during timber harvesting, as well as the number of younger trees that need to be retained to ensure adequate recruitment of future habitat trees, is a complex issue. Different species, obviously, have different requirements. Even among the arboreal marsupials there are major differences. For example, Yellow-bellied Gliders have a relatively large home range and use few of the available hollows over that range. Greater Gliders, however, have a small home range and not only use more hollows per hectare but also defend their territory, keeping other species from using available hollows. Different tree species form hollows at different rates and there is little information on the 'survival' of dead habitat trees or on mortality rates.

Because of these complexities, scientists have warned against generic management prescriptions, advising that harvesting practices need to be specific for each forest type. This requires a knowledge of what species are present and at what densities, ie comprehensive pre-logging fauna surveys. Such surveys would have significant financial implications for management and production costs.

The Department of Natural Resources has developed and implemented a Code of Practice for timber harvesting. The Code is a major improvement on past practice and makes specific provision for retention of habitat trees and recruits. However, the advice on which the Code is based recognises that the proposed retention level of 4–6 per hectare represents a compromise and will probably not maintain current densities of hollow-dependent fauna. Of particular concern is the research observation that Greater Gliders are absent from forests with fewer than six habitat trees per hectare. In other words, the retention level is set at what appears to be a threshold for that species. Given that we do not know if even current populations are viable in the long term, the outlook for many of the fauna in the higher quality forest habitat in SEQ is grim.

References

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Habitat Tree Technical Advisory Group (1998) *Managing Habitat Trees in Queensland Forests*. A report to the Queensland Department of Natural Resources, Forest Resources, Brisbane.



Greater Glider *Petauroides volans*