

FORESTS, OLD-GROWTH FOREST PRIOR TO EUROPEAN SETTLEMENT

123. Dr CONSTABLE to the Minister for the Environment:

In reference to the Department of Conservation and Land Management's determination of the extent of old growth forest prior to European settlement -

- (a) which studies and data exist to support CALMs claim that fires (and hence, regenerative events) were relatively frequent in the State's karri forests before European settlement;
- (b) how can CALM be aware of how many regeneration events in a karri forest have taken place from the studies and data in and not know where these fires occurred and the extent of those fires;
- (c) how can CALM estimate the number of regenerative events in the States karri forests prior to 1826 when fires may have occurred in the same areas of forest a number of times; and
- (d) if there is no conclusive way to determine the percentage of the old growth karri forest that existed prior to European settlement, how can CALM claim that the total area of karri forest today is approximately 80% of what it was prior to 1826?

Mrs EDWARDES replied:

- (a)-(d) CALM has not determined the extent of old growth forest prior to European settlement. A number of studies have, however, been undertaken to map the likely extent of the karri forest prior to European settlement. These involved the interpretation of aerial photographs, field reconnaissance and in some areas cleared for agriculture, application of the relationship between existing karri remnants and soil moisture as indicated by summer pasture condition. The results of these studies were published in Bradshaw, F.J., Collins, P.M., and McNamara, P.J. (1997) *Forest mapping in the South West of Western Australia*. Department of Conservation and Land Management, 14 pp plus 3 mapsheets. This work formed the basis for the estimates of pre-1750 extent of the karri forest ecosystems reported in the Regional Forest Agreement documents (Commonwealth and Western Australian Steering Committee Comprehensive Regional Assessment. A Regional Forest Agreement for Western Australia. Volume 1, January 1998. Commonwealth of Australia and Western Australian Government, 185 pp). The data indicate that over 80% of the estimated pre-1750 area of the karri dominant forest is still forested today.

A further series of studies was undertaken to map that portion of the existing karri forest which is old growth, where karri old growth is defined as previously unlogged forest which is dominated by the mature or senescent growth stage. This work combined the interpretation of stand growth stage from aerial photographs, field sampling of tree ages, and stand disturbance records to map the current extent of karri old growth. These studies are described in

Bradshaw, F.J., Rayner, M.E., and Kierath, M. (1999) *The Karri Forest: 2095AD in Landscape*, WA's Conservation, Forests and Wildlife Magazine, Winter 1999 Edition.

Bradshaw, F.J. and Rayner, M.E. (1997) *Age structure of the karri forest: 1. Defining and mapping structural development stages*.

*Australian Forestry* 60: 178-187.

Bradshaw, F.J. and Rayner, M.E. (1997) *Age structure of the karri forest: 2. Projections of future forest structure and implications for management*. *Australian Forestry* 60: 188-195.

Rayner, M.E. (1992) *Application of dendrochronology, stem analysis and inventory data in the estimating of tree and stand ages in karri forest*. Department of Conservation and Land Management, Technical Report No. 27, 19 pp.

This work was applied in the old growth analyses and maps published in the Comprehensive Regional Assessment for the Regional Forest Agreement.