

ESTIMATES AND FINANCIAL OPERATIONS COMMITTEE

Department of Biodiversity, Conservation and Attractions

Supplementary Information No. B3 – Hon Steve Thomas MLC



Question: *Does the government have a measure of the changing average bole size, particularly of jarrah trees, going back in five-year increments over the last 15 to 20 years?*

Answer:

The average bole size of jarrah trees is not routinely monitored for forest management purposes. However, using tree measurements obtained from the strategic inventory of the jarrah forest an analysis has been undertaken of the sawlog volume within tree diameter classes, and how this has changed over time from 1990 to 2014.

The jarrah inventory records the size of tree boles, and along the bole, the log faults, features and characteristics which enable estimation of timber products such as sawlogs. The initial inventory conducted in 1988 - 1992 comprised a systematic sample of plots located across all the jarrah forest available for timber production at that time. During the period 1990 to 2014 a series of forest management plans and Government policies led to areas of forest being progressively set aside from timber production in reserves. By comparing the distribution of tree and bole sizes across the remaining forest available for timber production in 1990, 1994, 2004 and 2014, the relative change in the size class distribution of boles during this time can be quantified.

The regulation of timber yields from the jarrah forest is based on maintaining the supply of logs of sawlog grade. Accordingly, changes over time in the bole size of trees providing sawlogs were examined in this analysis. The mixed-mature (two-tiered) jarrah forest (*cf.* forest dominated by young regrowth) remained the major source of sawlog supply over the decades, and therefore the analysis was confined to this forest type and structure. This analysis does not incorporate changes in bole size arising from the increased area of regrowth-dominated stands as the mixed-mature forest is regenerated following harvesting.

Figure 1 (Attachment 1) depicts the proportion of the total estimated sawlog volume in the forest that trees in each tree diameter class comprised in each year. This shows that the contribution of each diameter class (size of tree bole) to the total available sawlog volume in the mixed-mature forest has remained relatively stable over the period 1990 to 2014. Figure 2 (Attachment 2) re-presents this information as the percentage change in each diameter class at 2014 relative to 1990. While the percentage change in each diameter class is small, there is a clear trend of the smaller size classes (less than 55 centimetres diameter) comprising a higher proportion of the available sawlog volume in 2014 relative to 1990. This corresponds to a decline in the proportion of all the larger size classes (greater than 55 centimetres diameter) in 2014 relative to 1990.

This analysis indicates that the size class distribution of tree boles contributing to the total sawlog resource in the mixed-mature forest in areas available for timber production has been relatively stable over time. However, because there are a range of faults, features and characteristics that combine to qualify a log as a 'sawlog' the analysis has not examined whether the overall quality of sawlogs made available or accepted by sawmillers has varied over this period, or whether the relative proportion that the smaller logs comprise of the total intake by sawmillers has changed. For example, a separate analysis in 2008 of the size and quality of logs felled and sold as sawlogs suggested that smaller logs (less than 45 centimetres diameter) comprised a substantially higher proportion of annual sawlog intakes from the northern jarrah forest at that time than in the early 1990s.

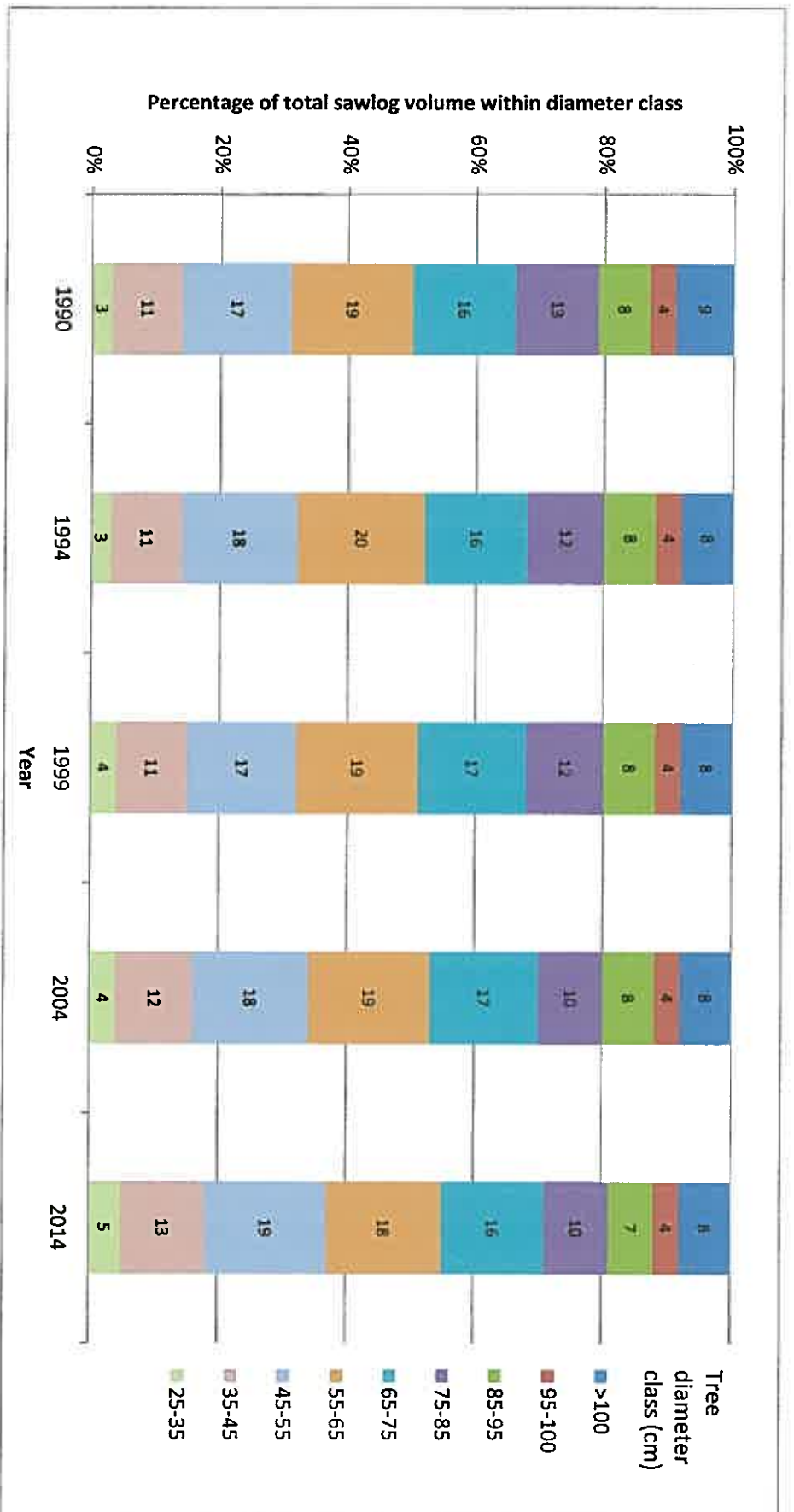
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ATTACHMENT 1

Figure 1. Proportion of total inventoried jarrah sawlog volume within each tree diameter¹ class in the mixed-mature jarrah forest estimated at 1990 to 2014.



¹Tree diameter over bark as measured at 1.3 metres (breast height) above ground.

ATTACHMENT 2

Figure 2. Percentage change between 1990 and 2014 in the contribution of trees in each size class to the total inventoried sawlog volume in mixed-mature jarrah forest available for timber production.

