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(As a follow up to Mark Poynter's article on Water and Native Forest Logging and in particular reference to the thinning project of the Wungong catchment in WA, I attach my submission to a "Draft Blueprint for Water Reform in WA". I believe it adds a further perspective on the topic and would be happy for it to be placed on the website - Phil Shedley.)

Ross Kelly
Chairman
Water Reform Implementation Committee
PO Box K822
PERTH WA 6842

Dear Sir

DRAFT BLUEPRINT for WATER REFORM in WESTERN AUSTRALIA

This submission relates to Section 8 - Invest in Water Use Efficiency which has as its objective:

DEVELOP WATER RESOURCES TO SUPPORT A DIVERSE AND VIBRANT ECONOMY.

The discussion paper makes no mention of the Wungong Dam project for increasing water run-off by thinning the native forests. This program will be a practical demonstration of the potential for expansion into other forested catchment areas that could add significant additional supplies of low-cost water into the existing infrastructure.

The Executive Summary of the Water Corporation's March 2005 report on the Wungong project states *In the past, and mostly before 1920, timber harvesting practices in the south-west of WA have converted much of the jarrah forest from old-growth forest to a regrowth forest. The regrowth forest is relatively even aged and uniform in structure, and often quite dense. An overstocked forest will compete for water. The jarrah is a hardy tree that will not thin itself like the karri trees further south.*

The current pole-stand of the jarrah regrowth forest is expected to remain unchanged for several centuries unless release from competition is achieved through selective removal of excess stems to allow the forest to trend towards the characteristics of a mature forest. The Victorian catchments, compared to the south-west of WA catchments, contain mostly

old-growth forests and where they have been converted to a regrowth forest, the catchment run-off [which comes from rainfall] has reduced by 50%-60%.

Reliable research by CALM, ALCOA, CSIRO and others over several decades [See the selected bibliography in the Water Corporation's Wungong report] has quantified the increased water yield that can be expected by reducing the crown cover of these dense regrowth jarrah forests. ALCOA's initial bauxite pit rehabilitation of wide spaced planting of seedlings resulted in rapid tree growth and an open type of forest approaching that of the original forest. Their present practice of broadcast seeding, however, results in such gross overstocking that some areas of the regrown trees have suffered drought deaths and seriously depleted water runoff. The research has clearly shown that reducing canopy cover [of either the natural regeneration or the dense seedlings resulting from direct seeding of bauxite pits] to something approaching the density of the original virgin forests would increase water run-off by up to 20 per cent without increasing its salinity.

The main reservoirs supplying the metropolitan area, Mundaring Weir, Canning Reservoir, Wungong Dam, Serpentine Dam, North Dandalup Dam, Harvey Weir, Stirling Dam and the Harris River Dam each have significant catchment areas with stands of native regrowth jarrah forests in the low-salt high rainfall zone. The crown covers of the regrowth forests that now stock these catchments are greatly in excess of the crown covers of the original old-growth forests. The increasing moisture demand resulting from this overstocking has not only greatly reduced the water runoff, but also severely retarded the regenerating tree growth so that most trees yield logs that are far smaller than the saw logs presently sold to existing hardwood sawmills. This in turn makes the sale of logs from thinning operations more difficult.

It is normal forest management practice when reducing the stocking of a forest in order to stimulate log size [and hence marketability] to remove the smallest suppressed stems as a means of reducing the competition on the dominant trees. When the thinned trees do not yield saleable logs the practice has been a costly 'thinning-to-waste'. CALM's practice has been and that proposed for the Wungong project is to poison these stems and to leave them standing dead. Such is costly, often yielding variable results and it creates an increased fire hazard.

'Thinning-from-above' is an alternative to 'thinning-to-waste'. The system removes the largest dominant trees rather than the smaller suppressed ones. The desired outcome of reduced canopy cover, however, is achieved with the removal of far fewer trees of a larger size more readily saleable to industry. The harvesting and successful regeneration of the jarrah forest for more than a century by 'thinning-from-above' has demonstrated the ability of suppressed jarrah saplings [unlike karri] to respond to the reduced competition.

Recent industry and government research [RIRDC Pub. No. 02/120] has demonstrated that Tasmanian blue gum logs, far smaller than the present Forest Products Commission saw log specifications, can be converted into high quality laminated flooring for expanding world markets. A previous study [FWPRDC Project No. PN004.96]

demonstrated the technical suitability of small regrowth jarrah, marri and karri logs for conversion into flooring and a range of other structural products.

Restricting the thinning program to the Wungong catchment causes an unwarranted delay in the urgent supply of additional water. The Wungong research trial does not expand on already established research outcomes and is not even testing the opportunities for commercial thinning. We endorse the claim by the Water Corporation that any environmental risks in thinning regrowth jarrah stands will be manageable. Our belief is that the only real impediment to expanding the thinning program to all the forested catchments in high rainfall areas [other than the political fear of opposition from green groups] is to establish markets for the thinnings. Accordingly, we recommend early action be taken to seek expressions of interest for commercial sale of the thinnings from all the water catchments that are heavily stocked with regrowth jarrah.

We recommend that expressions of interest be sought for the purchase of a long-term supply of logs from regrowth jarrah and marri trees sufficient to support a commercially viable processing plant for the manufacture of laminated flooring [or other value-added products]. A minimal royalty would be an incentive to compensate for the high processing costs of the small sized logs. It can be justified [or subsidised] by the contribution the thinning makes to the increased water yield. Provided the costs associated with felling, extraction and delivery are covered, minimal or even zero royalty would be a win-win position. The cost of thinning would be negligible, additional water would be supplied into the existing infrastructure and additional supplies of logs would be available to industry to compensate for the those locked up in protected old-growth forests.

Sincerely

Phil Shedley
Research Director