



Impact of Plantations on Murray Water Flows Grossly Exaggerated

A critique of

"Risks to the Shared Water Resources of the Murray-Darling Basin"

"Risks to the Shared Water Resources of the Murray-Darling Basin" (the Report) is Part II in a two part series on the shared water resources of the Murray-Darling Basin (MDB) prepared for the Murray Darling Basin Commission (MDBC) by CSIRO and published by the MDBC in February 2006 (MDBC Publication 22/06).

The Report suggests that climate change, afforestation (large scale tree planting), groundwater extraction, changes to irrigation water management, farm dams and bushfires are all potential risks to the shared water resources as they may reduce the volume of water in the rivers and streams of the Murray Darling Basin.

The Report has been used to inform comments and other work for example, *Australia's Climate is Changing Australia – The State of Australia's Water* (Wentworth Group of Concerned Scientists, Nov, 2006).

Unfortunately, in respect of timber plantations, the Report has some very serious shortcomings which must be corrected to prevent the Report's conclusions being used to inappropriately inform water policy. The following brief discussion illustrates these major inaccuracies.

In the section titled “*Afforestation*” the Report states (page 16) that there are 460,000 hectares of plantation in the MDB. The Bureau of Resource Sciences (BRS) which manages the National Plantation Inventory advises that there are approximately 284,000 ha of plantations in the MDB at the end of 2005. The Report has therefore overstated the actual plantation area by more than 60%.

Based on this overstatement of the current plantation area the Report presents three possible plantation expansion scenarios for the MDB and estimates the potential reduction in water yield associated with each of these scenarios. These are summarised in the table below.

Additional Area of Plantations (ha)	Reduction in water yield (GL)
920,000 (trebling)	1,100 – 1,400
460,000 (doubling)	550 – 700
141,000 (“best estimate”)	< 550 – 700 (Report statement)
141,000	165 – 210 (pro-rata estimate by A3P)

The plantation expansion scenarios presented in the table above are totally unrealistic for the situation in the MDB. Even the 141,000 hectare scenario is approximately the same as the “High Estimate” used in “*Plantations of Australia Wood Availability 2001-2044*” (BRS, August 2002). This report gives three scenarios and these are presented in the table below with estimates of reduction in water yield based purely on pro rata allocation of the yield impacts made by CSIRO.

“Wood Availability” Scenario	Additional Area of Plantations (ha) in MDB	Reduction in water yield (GL)
Low	40,000	48 - 61
Medium	92,000	110 – 140
High	148,000	177 – 225

In the Report CSIRO provide no explanation why their lowest or “best estimate” scenario is approximately equivalent to the highest scenario provided by the experts on this issue.

Based on more recent analysis by the BRS and on actual predictions and targets set for plantation expansion by timber plantation managers it is estimated that likely commercial timber plantation expansion in the MDB will be around 50,000 ha between now and 2020, that is in the “low” to “medium” range of the 2002 predictions.

This level of plantation expansion would result in a water yield reduction in the MDB in the order of one tenth of that presented in The Report (that is a 50–100 GL reduction rather than a 500–1400 GL reduction).

Tree planting of the magnitude suggested in the report is very much “Blue Sky” thinking and is only likely to occur if some broadscale revegetation projects are undertaken based on carbon credits or other environmental services in addition to commercial timber production objectives and this is only likely to occur in areas of the MDB with low rainfall and very little implication for water yields.

A3P makes no comment on the CSIRO estimates of water yield reduction associated with a given plantation expansion as it is not possible to determine from the Report how this has been calculated. However, the level of accuracy becomes immaterial on the basis that a more realistic plantation expansion scenario would, by any estimate, result in a minor impact on water yields when compared to the other risk factors.

On the basis of the above analysis it is totally unnecessary to open the many complex issues associated with imposing a regulatory or market mechanism to restrict plantation development in the MDB. The National Water Initiative (NWI) specifically allows for analysis of the significance of the likely impact of land use change activities in the regional water planning process (NWI Clause 56). The plantation industry will be working to ensure that all regional water plans, including those for areas within the MDB, use realistic plantation expansion scenarios to assess the significance of potential impacts of land use change on water availability.

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