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2 December 2010

Stakeholder Engagement Branch
'Guide' to the Proposed Basin Plan
Murray-Darling Basin Authority
GPO Box 1801
Canberra ACT 2601

Via (w) www.mdba.gov.au

Dear Sir/Madam,

Re: Australian Plantation Products and Paper Industry Council (A3P) Submission on the Murray Darling Basin Authority's Guide to the Proposed Basin Plan.

Thank you for the opportunity to make a submission on the Murray Darling Basin Authority's (MDBA) Guide to the Proposed Basin Plan (Guide). Please note that this written submission may not be the only input from A3P, if further information or key points about the Guide arise in the near future A3P intends to submit additional supplements.

The Murray-Darling Basin Authority (MDBA) released 'Volume 1' of the Guide on Friday 8 October 2010 and 'Volume 2' on Friday 22 October 2010. MDBA has requested initial stakeholder comment on the Guide by the 17 December 2010 in the first instance. A3P understands that the proposed Murray-Darling Basin Plan is scheduled to be released in 2011 for a further sixteen week detailed and extensive consultation and that much of the detail of how the Basin Plan will be implemented is still to be determined by the States through their subsequent planning and implementation processes.

A3P is the national industry association representing the interests of all segments of the plantation-based wood products and paper manufacturing industry. A3P member's employ more than 13,500 people in plantation management, sawmills, panel board, and paper manufacturing plants, mainly in rural and regional areas. Each year A3P members create and sell more than $4 billion of products, produce more than 12 million cubic metres of logs, 3 million cubic metres of sawn timber and more than 2 million tonnes of paper. A list of A3P members and statistics on their operations is available from the A3P website: www.a3p.asn.au.

Forestry plantations are directly involved in the water cycle playing a role in protecting water quality and intercepting some rainfall. Wood product and paper manufacturers use water within their processes. In addition the components of the wood products supply chain have a very large regional socioeconomic impact emanating from their activities (including being large regional employers). A3P acknowledges the importance of good management of water resources. As a responsible land user, the forestry plantation industry has a role to play in water management.

Many Australian plantation managers have achieved sustainable forest management (SFM) certification to substantiate their management credentials. SFM standards include forest management criteria requiring the protection and good management of water resources for water quality, water flows, and the prevention of water pollution.

Recommendation 1: *A3P acknowledges the importance of good management of water resources. As a responsible land user, the forestry plantation industry has a role to play in water management.*

- ***Australian Plantation Industry National Water Policy***

In July 2007, the Australian plantation industry, represented by A3P, Australian Forest Growers, the National Association of Forest Industries, and Timber Communities Australia released a national water policy. The policy details the industry's views on the National Water Initiative (NWI) and how the NWI clauses dealing with water interception should be dealt within the development of regional water plans.

The policy advocates that:

1. Plantation forestry is a dry-land (non-irrigated) agricultural land use and any policy contemplated in relation to interception of water by plantations should be considered only as part of a full debate on water interception by all dry-land agricultural land uses;
2. All policy on water interception must be underpinned by sound, repeatable and reliable science;
3. All policy on water interception should take into account issues of water quality as well as water quantity;
4. Clauses 55-57 of the National Water Initiative should only be implemented as written, that is, constrained to consideration of land use change (for example new plantations) not existing land uses;
5. Any inclusion of land use change to plantation forestry in a water entitlement system must take into account the differences between the physical extraction of water from the water supply system by humans and the natural interception of water by plants.

Please refer to the "*Australian Plantation Industry National Water Policy*" (**Attachment 1**). These fundamental principles have remained unchanged since 2007 and throughout all facets of the water policy debate that A3P has participated in to date.

Recommendation 2: *That the MDBA acknowledge the principles contained in the Australian Plantation Industry Water Policy and that they have retained currency throughout the water interception policy discussion.*

A3P's understanding of the MDBA's Guide Proposal

The Guide sets out Current Diversion Limits (CDL), a baseline framework for water flows and consumptive use. It then proposes an amount (or range) of water to be allocated to environmental requirements. Then proposed long-term Sustainable Diversion Limits (SDLs) which set the amount of water which could be consumed after the new environmental requirements are met.

- *Hydrologic Characteristics of the Basin detailed in the Guide*

The long-term average rainfall across the MDB is ~ 500,000 GL/year, most of that rainfall (94%) evaporates or transpires, leaving ~ 31,800 GL/year (6% of the 500,000 GL/year) as inflow to surface water systems. The MDB gets an additional 1,000 GL/year from inter-Basin transfers so total inflow to surface water streams equal to 32,800 GL/year.

An associated 26,500 GL/year (5% of the 500,000 GL/year) finds its way into the groundwater (as groundwater recharge) which has its own CDL (a total of 1,786 GL/year) and proposed SDL (long-term average reduction of between 99 GL/year and 227 GL/year, or SDLs of 1,687 GL/year to 1,559 GL/year respectively) contained within the Guide (the majority of points detailed below are common to surface and ground water).

Table 1 details MDBA's CDL baseline for surface water:

Table 1: CDL (Surface Water)[1]

Type	Long-term average	
	Volume (GL/yr)	Percent
Watercourse Diversions	10,940	33.4%
Interceptions (farm dams)	2,399	7.3%
Interceptions (plantations)	341	1.0%
Total CDL	*13,680*	*41.7%*
Environmental Water	14,000	42.7%
Murray Outflow	5,100	15.6%
Total Environment	*19,100*	*58.3%*
Total	**32,780**	**100.0%**

Table 2 details the two proposed scenarios for SDL for surface water:

Table 2: Proposed SDL (Surface Water)

Type	(Scenario 1) Plus 3,000 GL/yr		(Scenario 2) Plus 4,000 GL/yr	
	Long-term average		Long-term average	
	Volume (GL/yr)	Percent	Volume (GL/yr)	Percent
Watercourse Diversions (plus Interceptions - farm dams and plantations) - *SDL*	10,700	32.6%	9,700	29.6%
Environmental Water	15,000	45.7%	15,400	47.0%
Murray Outflow	7,100	21.6%	7,700	23.5%
Total Environment	*22,100*	*67.4%*	*23,100*	*70.4%*
Total	**32,800**	**100.0%**	**32,800**	**100.0%**

Scenario One equates to an overall 22% reduction and Scenario Two to a 29% reduction from CDL to the proposed new SDL.

The MDBA proposal is to put the Basin Plan into effect via:

- Establish a baseline for water flows (ie the CDL);
- Propose additional environmental water needs;
- Propose new SDL;
- Develop an Environmental Watering Plan;
- Develop a Water Quality and Salinity Management Plan;
- Develop new water trading rules;
- The accreditation of state water resource plans ensuring the relevant States implement the SDL framework in accordance with the Basin Plan.

[1] Murray Darling Basin Authority's Guide to the Proposed Basin Plan (Guide)

The accuracy of these water use estimates are questioned with some water uses (i.e. metered irrigation) being easier to estimate than natural systems like plantations (which are located in a variable environment and across catchments, slopes soils, and different hydrology). It has been stated by MDBA technical staff[2] that confidence limits (+ or -) of the water use estimates for interception could be up to 50%.

Recommendation 4: *A3P questions the accuracy of the water-use estimates especially of natural systems such as plantations and therefore the ability to use these estimates in a precise manner to support long-term decisions.*

The MDBA has indicated that the proposed SDL impact can be reduced by water recovery efforts (Australian Government's 'Water for the Future' program), risk allocation provisions, and temporary diversion provisions. The Australian Government has indicated its intention to bridge any remaining gap between what has been returned and what is required to be returned under the Basin Plan by continuing to buy back surface water entitlements.

What impact these efforts and commitment will have on groundwater and interception activities is uncertain and requires clarification.

Recommendation 5: *If water interception by plantations is included in the new SDL in the interest of equity, plantation growers should have equal rights to Government funded 'buy-backs' of water (equitable with irrigators and current players in the consumptive pool).*

Recommendation 6: *Currently the Guide does not seem to incorporate past 'buy-backs' of water allocations or efficiency gains within its calculations and may therefore significantly overestimate the water volumes required by the MDBA to be directed to environmental uses. In addition other potential water saving solutions (such as engineering efficiency solutions) seem to have not been identified and developed within the holistic review under the Guide. These oversights should be addressed in the Guide.*

Plantation Interception in the Guide

In the Guide, MDBA has proposed that the new SDL be applied to watercourse diversions (towns, community, irrigators and industry use) and '***interception activities'*** (including farm dams and plantations).

A3P is significantly concerned by the extent to which the Guide refers to the role of plantations in water interception, the apparent MDBA view of the significance of interception activities in water flows, and the role they could potentially play in the consumptive pool. However, there is scant consideration of plantations in any other context within the Guide such as the socio-economic analysis, environmental benefits or water quality and salinity control.

Plantations are the only form of dry-land (non-irrigated) land use whose water interception is estimated and proposed to be included in the new SDLs as a significant interception activity.

Recommendation 7: *The extent to which the Guide refers to the role of plantations in water interception, the apparent MDBA view of the significance of interception activities in water flows and the role they could potentially play in the consumptive pool are inappropriate and unjustified and should be modified.*

[2] Senate 'Environment and Communications Legislation Committee' – Estimates -19 October 2010 - EC21

Recommendation 8: *Where plantations are included far greater consideration of socioeconomic factors, environmental benefits, water quality, and salinity control needs to be included.*

A3P is concerned about potential misunderstandings by stakeholders of grouping (and reporting) of interception activities consolidated water use estimates throughout the 'Guide'. For example the MDBA combined estimate of the two interception activities reported in the Guide (being farm dams and plantations) is 2,735 GL/year made up of an estimated 341 GL/year for plantations (12% of the total) and 2,394 GL/year for farm dams (88% of the total).

As can be seen the estimated plantations water use is by far the smaller component of the interception activities water use estimate. Throughout the Guide the consolidated figure is reported potentially creating an unclear view of the relevant significance of the two interception activities reported.

Recommendation 9: *A3P is concerned about potential misunderstandings by stakeholders of grouping (and reporting) of interception activities consolidated water use estimates throughout the 'Guide'. This should be clarified in the 'Guide'.*

Specific principles for equitable, efficient and effective policy the MDBA should consider and address in the Guide and the subsequent proposed Basin Plan, to better reflect the spirit and principles of the National Water Initiative (NWI) and other policy principles, appreciate the role that plantations play in the landscape (both socio-economic and environmental), and achieve equitable water management outcomes include:

1. Significance of 'plantation' interception and MDBA estimates of Surface Interception activities in the MDB

a. *Significance.*

Effective policy should include the appropriate determination of the 'significance' of an interception activity in the context of the relatively small significance of plantations within broad catchments. Moreover, the scale and location of plantations within sub-catchments is important as well as timing, management and other factors.

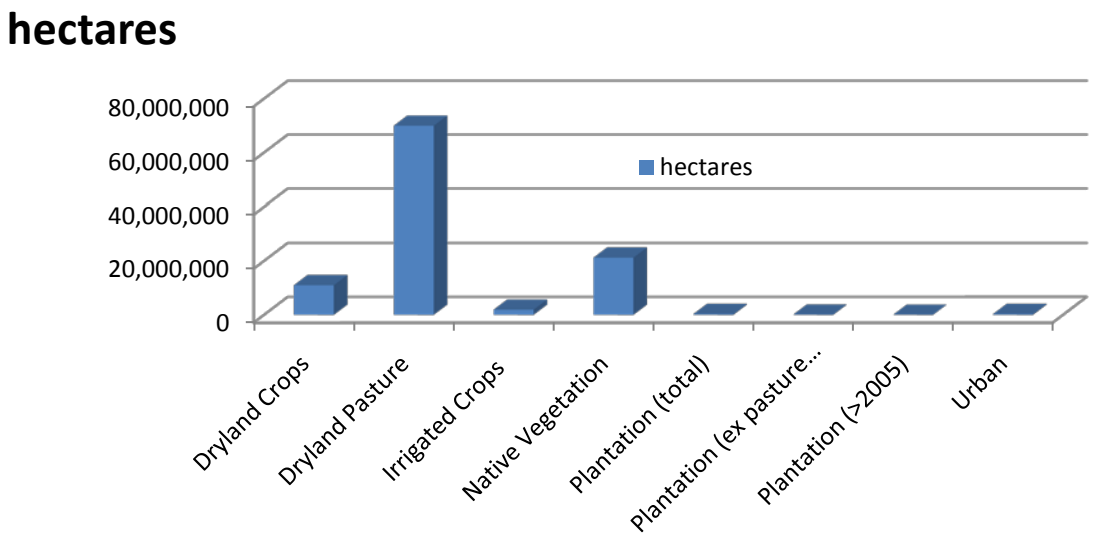
When properly planned and managed, plantations can contribute to more sustainable land use in rural areas by providing many environmental, social and economic benefits with little impact on water availability. The challenge is to encourage effective water policy which supports plantation development where they have the most commercial and environmental benefits and understand their impact on water flow and cycle, if any.

The treatment of plantation interception in the MDB under the proposal in the Guide needs to be considered in light of the relative significance of plantations as a land-use in the context of all other land-uses in the Basin.

As can be seen in the **Table 3** below plantations are a very small land-use compared to other land-uses. The scale and location of plantations within the individual catchments that make up the MDB is important in considering water flows and management (as a litre of water intercepted in the headwaters is not a litre of water lost from the stream further down in the catchment due to hydrological transmission losses).

Table 3: Summary of MDBA land use

Land use	Area	
	percent	*hectares*
Dryland Crops	10.49%	11,001,881[3]
Dryland Pasture	66.73%	69,970,726
Irrigated Crops	1.83%	1,916,256
Native Vegetation	20.26%	21,242,551
Plantation (total)	0.28%	290,000[4]
Urban	0.26%	276,104
Total	**100.00%**	**104,852,566**
Water		943,861
Plantation (ex-pasture conversion)	*0.08%*	*87,000[5]*
Plantation (>year 2005)	*0.01%*	*13,000[6]*



Recommendation 10: *Plantations, a dry-land agricultural land-use, is not a significant interception activity in the context of the Murray Darling Basin, and as such should not be included in the proposed SDLs.*

Within the discussion of water management (and as an extension the Guide) there is also a need to value positive externalities (e.g. carbon sequestration, salinity and other water quality benefits). A litre of water flowing from a land-use that yields high levels of these positive externalities (e.g. plantations) should be valued higher than a litre of water flowing from a land-use that yields low levels of these positive externalities (e.g. cotton crop).

[3] CSIRO report page 14 'Water Availability in the Murray-Darling Basin'' Oct 2008, www.csiro.au
[4] MDBA 'Guide', Volume 2, Chapter 2 Page 39
[5] Estimated calculation is 30% of 290,000 = 87,000 ha (70% of 290,000 is estimated to be established from ex-native forest)
[6] ABARES 'Australian forest and wood products statistics', March and June Quarter 2010, Page 2, Box 1.

b. *Prior land-use.*

The majority of plantations (greater than 70%) located in the MDB have been established on ex-native forest sites not ex-pasture sites, where the potential differential in water yield between native forest and plantation over a rotation is negligible. Research by the Forest Science Centre (Creswick) has shown that in high rainfall years and with young ages the Radiata pine uses less than the native forest and with low rainfalls or older age classes the Radiata pine uses slightly more water than the native forests.

The MDBA statement '*that the plantation water interception quantified refers only to plantations established on cleared land (not those on ex-native forest sites) or where plantations had been established on land that previously had a plantation (e.g. second rotation planting)*' on page 39 in Volume 2 is not consistent with the plantation area detailed on page 39 in Volume 2 of '290,000 hectares' which is the total plantation estate in the MDB not a subset and the increased water use by interception associated with the total area using cleared land as a baseline (ie the estimated figure 341 GL/yr of water interception associated with plantations).

The Guide provides no evidence that it has the necessary information regarding prior land-use to support this statement and/or that the MDBA has adjusted the resulting increased water use by interception to reflect this statement. This appears to be a fundamental inconsistency or inaccuracy, in the Guide and this should be corrected.

The Guide may reflect total plantation' water interception but if the statement has not been applied correctly, the Guide may overestimate (by as much as 70%) the water use by plantation interception. Water interception by a substantial proportion of the plantation area has already been taken into account in water planning processes, along with interception by other pre-existing vegetation.

In addition the calculation of the plantation water use estimate of 341 GL/year is not detailed in the Guide rather relying on a reference on page 309 in Volume 2 of the Guide to another report (i.e. SKM, CSIRO & BRS 2010).

Recommendation 11: *The calculations of unaccounted plantation water interception which have been extracted from an inaccurate National Water Commission (NWC) study, need to be reviewed and corrected.*

Another significant omission within the Guide is the calculation of pre-development flows only includes river regulation and no attempt is made to assess pre-land clearing flows. It is considered that pre-land clearing flows should be the true reference for re-establishing environmental flows.

c. *Retrospectivity.*

Even the MDBA statement on page 39 in Volume 2 of the Guide was followed accurately it would still overestimate the extent to which plantations are relevant to the NWI interception clauses. The NWI clauses deal only with land use change and therefore, only plantations established on cleared land after the signing of the NWI (2004) would be considered relevant. To put this into perspective, 13,000 hectares of new plantations were planted in the years subsequent to 2004.

Recommendation 12: *Again the calculations of unaccounted plantation water interception in the Guide need to be reviewed and corrected, on the basis of the MDBA's own description, prior land-uses impact on water flow, and incorporating no retrospectivity (as contained in the NWI)*

d. *Future land-use.*

In addition to ensuring the analysis is accurate there is also an important practical policy context that needs to be taken into account when considering possible options for taking plantation water interception into account. In a large number of cases, particularly where plantations have been established directly on ex-native forest sites, there is very little likelihood these areas of land will ever be used for anything other than a forest based purpose.

If the plantation is harvested and not re-established the site will be regenerated to native forest because that is the only other appropriate or acceptable land use. Therefore, the level of water interception will not change in any substantial manner. However, it is highly likely that it has been taken into account already in regional water planning and allocation processes along with interception by the other pre-existing vegetation.

In some other instances trees were established on ex-agricultural land to ameliorate soil erosion or address other environmental issues. Again, reversion of this land back to pasture or other agricultural land use would be improbable and/or undesirable.

Any policy approach involving a requirement to purchase a water entitlement for such areas will essentially be a tax or unavoidable charge faced by the manager of that land as there will be no option available to them to not intercept the water. The conversion of these plantations to 'cleared farm land' is not a realistic possibility under any foreseeable circumstances and suggesting otherwise is highly misleading.

Recommendation 13: *The MDBA acknowledge that the conversion of these plantations to 'cleared farmland' is not a realistic possibility and this difficulty should be reviewed and corrected within the Guide.*

e. Plantation expansion.

Contrary to the MDBA and other commentator's forecasts, it is expected that there will be modest increases in new plantation area established within the MDB in the near future due to negative investor sentiment, high land-costs, viability of investment, flatness of key product markets, and MIS company collapses.

For example since 2005 there has been only 13,000 hectares of new plantation established within the MDB [7]. To be clear the plantation industry desires expansion of the plantation base to meet future timber market demand and maintain international competitiveness, however for the reasons detailed above we expect any increases to be modest (insignificant from a water use perspective) in the near to medium term.

With respect to carbon plantations, there is no current reason to believe that commercial timber plantation growers will receive any benefit from potential carbon pricing for a range of reasons including complex and onerous requirements and the lack of demand certainty.

Recommendation 14: *There is **no** urgent need to address plantation water interception in the setting of SDLs because, contrary to the MDBA and other commentator's forecasts, A3P expects there to be only modest increases in new plantation area established within the MDB in the near future.*

In addition the Guide inadequately addresses the socio-economic consequences of limited plantation expansion and the associated industry and supply chain development into the future.

[7] ABARES 'Australian forest and wood products statistics', March and June Quarters 2010, page 2, Box 1

2. Equitable treatment of all land uses.

Timber plantations are an 'as-of-right' 'dryland' or 'non-irrigated' crop raising activity and must be treated on an equitable footing with other dryland agricultural land uses. Any policy that includes interception activities must include all new, significant water interception activities. There is a need for a better understanding of all water users outside the water entitlement framework.

Variation in land-use change, crop type or farming practice such as improved pasture, or dryland pasture converted to dryland crop, and/or conservation farming practices all negatively impact on the resulting water yield from those changed or modified land uses when considered from an existing baseline. Note in **Table 3** above, dryland crops and dryland pasture account for a total of 77.2% of current land-use in the MDB. It does not take a large percentage change or modification in land-use, crop type or practice to make a potentially large difference in water yield due to the vast area involved. These changes and modifications to existing land uses are known to be occurring on an annual basis and yet are not considered in the current version of the Guide.

Recommendation 15: *Timber plantations are an 'as-of-right', 'dryland' or 'non-irrigated' crop raising activity and must be treated on an equitable footing with other agricultural land uses.*

3. Management of new or additional land use change.

The baseline determined by any policy or action must not be retrospective but recognise the current mix of land uses existing at the date that a policy or action is determined. Therefore plantations established prior to an existing date (eg 2004) should not be included in any policy dealing with interception associated with land-use change. Existing rights and entitlements must be recognised as the rights for water use by land-use do exist and they are implicit in the value of the land retaining option value.

Plantations are long-term investments (30 years plus) with many implicit decisions made by investors and managers throughout the life of the investment. As a result the ability to rapidly change land-use activity is constrained. Further the majority of plantations in the MDB have been planted over a long period of time prior to any proposed changes to water policy.

Recommendation 16: *The baseline determined by any policy or action must not be retrospective but recognise the current mix of land uses existing at the date that a policy or action is determined.*

4. A change in rotation does not constitute a change in land use.

This is applicable to all crops, including timber plantations. This principle should be incorporated in any proposed water policy.

Recommendation 17: *The Guide should acknowledge that a change in rotation does not constitute a change in land-use.*

5. The impacts of water interception from land use change must be considered in conjunction with its benefits to the community.

Changes in land use can provide environmental benefits such as carbon storage, water quality, and salinity mitigation as well as socio-economic benefits to the community. It should be noted that due to the drought, lowering water tables resulting in salinity (a significant problem in the past) being less of a current issue. As water availability increases due to the current wet period, salinity is expected to increase as an issue.

Plantations and associated industry has a large direct and indirect socio-economic impact on rural regional communities providing wealth, employment (often professional) and flow-on services for these communities which must be taken into account in the Guide under the *Water Act 2007 (Cwlth)* and MDBA own objectives.

A3P's strong assertion is the Guide is currently only looking at interception by plantations with a very narrow focus, rather plantations should be considered as a viable solution to many of these challenges (dryland salinity etc) not a potential threat.

Please refer to **Attachment 2** for a relevant brief case study on the socio-economic impacts of plantations in the MDB.

Recommendation 18: *The Guide should take into account that plantations and associated industry have a large direct and indirect socio-economic impact on rural regional communities providing wealth, employment (often professional) and flow-on services for these communities.*

6. Technical decisions should be based on evidence and sound repeatable science

Forestry water use must be kept in perspective. Localised and cumulative impacts should be considered. Significance must be measured in terms of scale as well as intensity and factors such as geography, site characteristics, timing and management considered. The plantation water use analysis presented in the Guide relies almost exclusively on an erroneous NWC commissioned report (i.e. SKM, CSIRO & BRS 2010).

Recommendation 19: *Technical decisions should be based on evidence and sound repeatable science.*

7. The benefits of intervention must outweigh the costs

The benefits of a policy measure or intervention must outweigh the costs (potential complexity of licensing, establishing water rights and the trading of these rights) and a targeted approach is required. There is no case for a state-wide or region-wide regulatory framework to deal with plantation water interception. The impacts of land use change on water resources are not uniform and an approach targeting highly stressed areas within a broader policy approach may be appropriate. In such cases, there must be transparent, predictable and equitable rules for determining when an area is highly stressed.

Poorly designed policy can result in unintended policy outcomes that may result in unsustainable industry activity and plantation investment, due to increased uncertainty and/or costs of potentially inequitable water policy development. It should be noted that if the Guide's principles are incorporated and then if the Plan is adopted there is envisaged to be significant additional administration costs and potential for these to be mostly borne by the water users (or land-use manager) resulting in further substantial cost in addition to any requirement to purchase or manage a potential water entitlement.

Recommendation 20: *The benefits of intervention must outweigh the costs.*

8. Policy should focus on managing the water not the land use activity

This makes policy development sense in order to reduce the potential for market distortions by inadvertently selecting winners from land-use activities.

Recommendation 21: *Policy should focus on managing water not the land use activity.*

9. Surface water and groundwater resources are connected and should be considered together.

From a hydrological viewpoint surface water and groundwater resources are connected and it seems optimal that the two systems should be considered together when considering the significance of impact of an interception activity on water flow or developing water policy.

Recommendation 22: *Surface water and groundwater resources are connected and should be considered together.*

The forestry industry looks forward to working constructively with the MDBA.

If you have any questions about A3P's submission please contact Gavin Matthew or myself.

Yours sincerely

RICHARD STANTON
Chief Executive Officer

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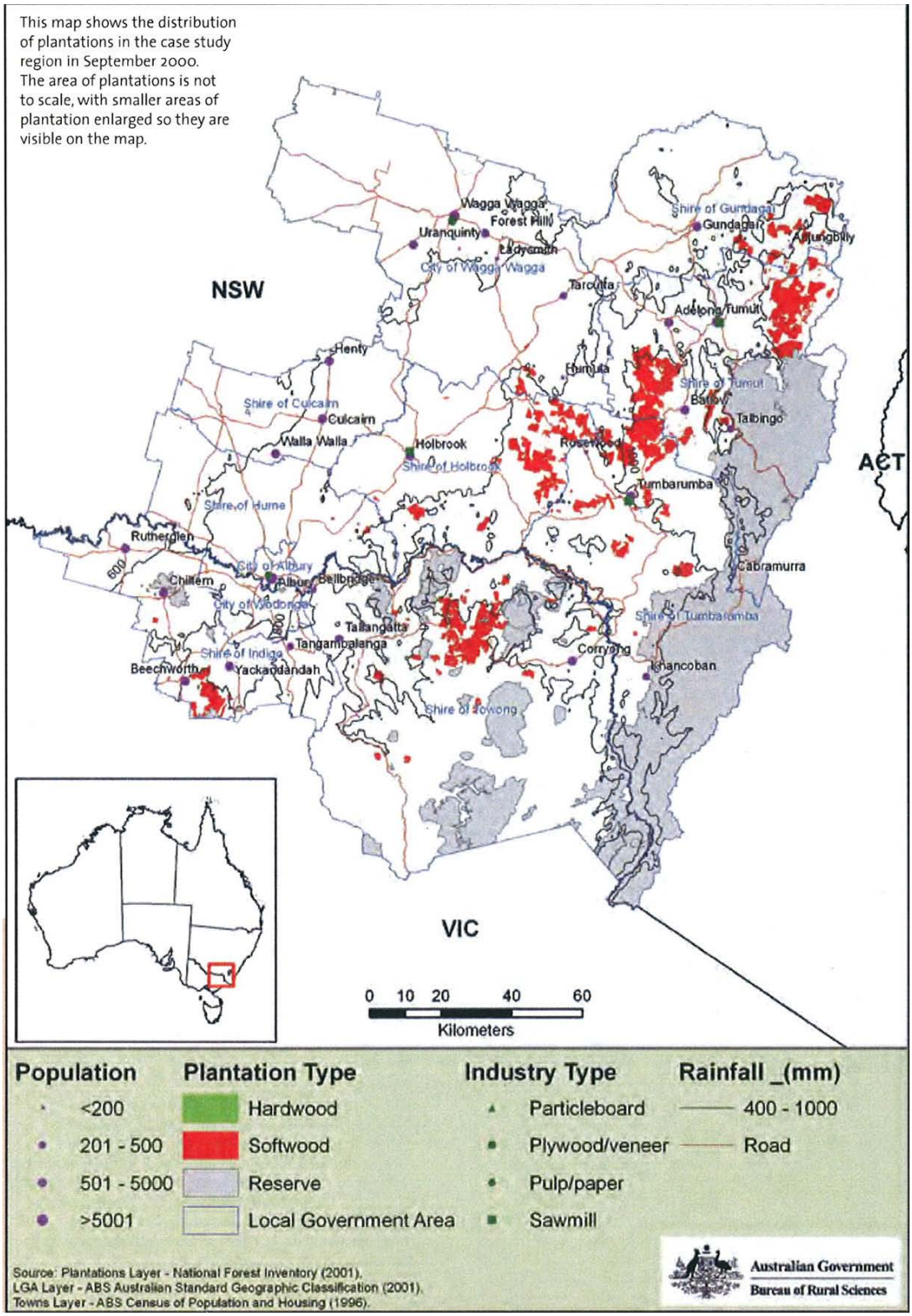
ATTACHMENT 1: ‘***Australian Plantation Industry National Water Policy’***

ATTACHMENT 2: ***'Brief case study on the socio-economic impacts of plantations in the MDB'***

- The regional area called South West Slopes (and/or Murray Valley) is located within the MDB. The SWS region is a useful representative area to detail a brief case study on the socio-economic impacts of plantations within the MDB.
- **Figure 1** below details the SWS region.

Figure 1



Key statistics (note some of these are getting dated at 2004):

- The Murray Valley hardwood and softwood total plantation total area is 195,572 hectares (2009)[8]. A significant proportion of these plantations have been established on ex-native forest sites (estimated 70%+);
- Most of the plantations are in the shires of Tumut, Tumbarumba and Holbrook, with a smaller area established in the Gundagai shire;
- Plantations have been established in the SWS region since the 1920's;
- Since the 1950's, a number of processing facilities have been established in the region expanding their capacities overtime (sawmills, veneer plants, salvage mills, pulp and paper mills – newsprint and packaging products);
- These processing facilities rely on a critical mass of plantation to provide sufficient resource;
- Further modest plantation expansion is desirable to maintain international competitiveness of processing (eg VISY expansion);
- These processing plants are located in key regional cities/towns such as Tumut, Tumbarumba, Albury, Holbrook, Wagga Wagga, Myrtleford and Canberra;
- The presence of integrated processing (associated with plantations) in the region has resulted in a high level of employment in the plantation sector with 1.53 people employed per 100 hectares of plantation in 2003/04, over 90% of which were employed within the region;
- Total direct employment is around 3,000 people in 2003/04 (195,572 ha x 1.53 people per 100 ha);
- For every $1 million spent by the plantation sector, between 8.3 and 15.7 jobs are created in the SWS region;
- For every direct job in the plantation sector, this equates to flow-on employment equivalent to 1.3 jobs within the SWS region (~4,000 additional people);
- The total value of output of the plantation sector (including operating and capital expenditure) in the SWS is $574.5 million in 2002-03;
- This equates to $5,334 per hectare in 2002-03;
- A total of $1.83 of output is generated in the SWS economy for every dollar invested by the plantation sector;
- The presence of a mature integrated plantation industry in SWS with the required critical mass has been associated with higher than average growth in working age population and stable household income[9].
- More than 90% of direct employment generated by the management, harvesting and processing of plantations is based in the region[10]

[8] Gavran, M and Parsons, M 2010 Australia's Plantation 2010 Inventory Update, National Forest Inventory, BRS, Canberra ;
[9] Socioeconomic Impacts of Plantation Forestry November 2005 FWPRDC, BRS
[10] Socioeconomic Impacts of Plantation Forestry in the South West Slopes Region (NSW) (2005) FWPRDC, BRS