

18 December 2009

Stakeholder Engagement Branch  
Sustainable Diversions Limits Issue Paper  
Murray-Darling Basin Authority  
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Dear Sir/Madam,

**Re: Submission on the Issues Paper – Developing Sustainable Diversion Limits in the Murray-Darling Basin.**

Thank you for the opportunity to make a written submission on the Murray-Darling Basin Authority's (MDBA) Issues Paper – Developing Sustainable Diversion Limits in the Murray-Darling Basin (MDB) - the 'Issues Paper'.

Australian Plantation Products and Paper Industry Council (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](http://www.a3p.asn.au).

A3P members include significant land/plantation managers and wood processors. Plantations are an integral part of the water cycle in their immediate environment via water transpiration and filtration. The role of plantations in protecting soil and water quality is probably even more significant than the water interception impacts of plantations.

- ***Plantations in the MDB***

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 a national 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.

To put the current extent of plantation forestry in the MDB into context, the Bureau of Resource Sciences (BRS) <sup>1</sup> estimates that plantation forests cover less than 500,000 hectares of the MDB being 0.4 per cent coverage, and no individual large water catchment has more than 2.5 per cent covered by plantations. In regard to future development, BRS projections indicate that MDB commercial forestry plantations could expand in area by 52,000ha or 18% by 2030. These forestry developments would use a small volume of water in a MDB-wide context, and the reduction in average annual runoff at the regional scale would be less than 1% (about 0.3% reduction over the Murrumbidgee and Murray regions).

***Recommendation 1: MDBA in the Basin Plan note the current extent of plantation coverage and projections of future development in the MDB, as a result claims of the broad-scale 'significance' of this land-use change is certainly debatable.***

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<sup>1</sup> Water Availability in the Murray-Darling Basin, CSIRO, October 2008 (pages 4 and 10)

- ***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 with in 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**).

A3P acknowledges the importance of good management of water resources. As a responsible land user, the 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 2:*** *MDBA in the Basin Plan consider the key principles detailed in the Australian Plantation Industry National Water Policy.*

- ***Key Issues detailed in the Issues Paper***

A3P has read the Issues Paper in light of the key principles detailed in the *Australian Plantation Industry National Water Policy*.

As a result A3P notes, and will discuss below, the following key issues detailed in the Paper (page 5):

- The forms of ‘take’ that are to be limited by SDLs [Sustainable Diversion Limits];
- An SDL will not limit ‘take’ from a water resource if the take would not contribute to the compromise of the environmental characteristics that the Water Act specifies as being important;
- SDLs are to include limits on the amount of water that can be taken by interception activities;
- Where a proposed interception activity is identified as being significant and above a specified size threshold, the MDBA is proposing to include requirements for relevant WRPs [Water Resource Plans] that establish suitable management approaches.

- **Defining ‘take’, ‘interception’ and ‘incidental interception’ [Questions 4.2 and 4.2.1]**

The Issues Paper defines the term ‘take’ stating that it is a broad definition that does not distinguish between taking for environmental purposes, consumptive purposes, or other non-environmental purposes. It also differs from the traditional view of ‘diversions’. Examples were given that included all impoundment of water (including public storage) and potentially equates to all activities which modify stream-flow.

**Recommendation 3:** *MDBA in the Basin Plan consider and address the trade-off between expansive definitions of ‘interception’ and ‘take’, and the natural policy development difficulties that result from the expansive definitions.*

**Recommendation 4:** *MDBA in the Basin Plan consider and incorporate the long-term history of original vegetation, subsequent land-use change, and reforestation trends in the Australian environment that has impacted on water quality and yield within the MDB.*

‘Interception’ activity is defined as the interception of surface water or groundwater that would otherwise flow, directly or indirectly, into a watercourse, lake, wetland, aquifer, dam or reservoir that is a Basin water resource. Examples given include the capture of water in farm dams located away from watercourses, the capture of water on floodplains and afforestation.

The Issues Paper proposes that one of the main categories of ‘take’ is ‘incidental’ interception, defined as activities that have the incidental consequence of preventing water from flowing into a watercourse, lake, wetland, aquifer, dam or reservoir. For example, afforestation activities such as the establishment of plantation forests can incidentally intercept both surface and groundwater.

A key principle detailed in the Australian Plantation Industry National Water Policy ‘*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*’ needs to be incorporated in the treatment of interception activities.

Plantation forestry is seen to be broadly classified into ‘incidental’ interception but it is noted that in figure 5 (page 30) only afforestation and mining are used as examples which is misleading as other land-use changes are also examples (such as farm dams and types of cropping). Note, too, that when establishing water yields within key catchments the long-term history of land-use change, and afforestation in the catchment need to be considered.

A3P sees an additional two key issues arising from the broad definition of interception:

1. “would otherwise flow” is a highly questionable phrase because it makes assumptions about what would happen if the specific interception activity did not occur. Unfortunately, in the case of commercial forestry plantations, the general assumption is that land would otherwise be used for grazing and would generate a given higher level of runoff. This is not necessarily a reasonable assumption, for example if an area is not planted to commercial trees it could be neglected and regenerate naturally to a forested vegetation, which would result in a similar level of water interception as a commercial plantation but not through a deliberate action. This phrase is also vital in that it clearly constrains any consideration of interception to land use CHANGE. That is, interception of water by plantations existing at a given date (e.g. the date of signing of the NWI) should not be implicated in any way in the provisions related to interception as these plantations have a prior history of use, their interception has been taken into account in the past along with other vegetation in the calculation for water availability, and most importantly there is unlikely to be any other appropriate and acceptable use of plantation land which would result in a higher water yield (lower water interception);

2. The consideration of interception should include all forms of land use change not merely afforestation. As set out in the *Australian Plantation Industry National Water Policy* there are a number of other land use changes including grazing to cropping and changed grazing and cropping practices which could result in significant increased in interception particularly given the broad areas across which they are occurring.

**Recommendation 5:** *As per the clauses 55-57 in the National Water Initiative policy development should be constrained to consideration of land use change (new plantation establishment) not existing land uses.*

**Recommendation 6:** *MDBA in the Basin Plan should incorporate the equitable treatment of all applicable forms of land-use change (such as farm dams, grazing, perennial crops, afforestation, dairy farming etc).*

- **‘Significance’ of Interception Activity [Question 4.2.1]**

The Issues Paper proposes that where a proposed interception activity is identified as being significant and above a specified size threshold, requirements should be included by the MDBA for relevant WRPs that establish suitable management approaches. For example, specified kinds of interception activities may be required to hold a water access licence equivalent to the volume being intercepted.

Parameters such as: the size and shape of the water catchments; placement of catchment within the Basin; rainfall over time; distribution within the landscape; classification of consumptive and environmental water; environmental/social/economic benefits; and so on, should all be considered when evaluating the significance of the interception activity.

The MDBA should use the best available knowledge, and if deficient, further rigorous scientific evaluation would be needed to be the basis for any proposed significance test, specified size thresholds and/or benchmarks that maybe applied to an interception activity. If interception activity is still deemed significant, the key principles of efficiency, effectiveness and equity should apply to any potential measure that may be prescribed.

A3P understands from the Issues Paper that the MDBA propose to focus socio-economic studies on irrigation areas (ie lower in the MDB water catchments). A3P see this as potentially biased and that any proposed study(s) should cover the range of water resource areas or target the specific interception activity directly (if that water resource area or specific interception activity is deemed ‘significant’) rather than reliance on extrapolated results or findings from other activities (ie irrigation) or other water catchments. This comment is congruent with using the best possible data to make the most targeted, representative and informed decision.

**Recommendation 7:** *A3P supports that interception activities need to be evaluated (utilising evidence based and scientific approaches) for their significance against equitable and effective thresholds before potentially measures are put in place for that particular take or activity.*

**Recommendation 8:** *A3P supports the need for the proposed targeted socio-economic study(s) (as detailed in the Issues Paper on page 33 and 34) to be conducted and incorporated into the draft Basin Plan during the consultation phase.*

- **Potential regulatory measures [Question 4.2.1]**

The Issues Paper does not explore the full range of potential measures that may be considered if an interception activity is deemed to fit within the SDL framework, rather it gives the NWI example of licensing of interception water use.

There are different models that can be considered which include the definition of tradable water rights, creation of water entitlements, or a full water share system. These more market based systems are seen to create value in the water right and allow these rights to be traded in a competitive market so that the optimum value and use of that water is achieved, potentially minimising potential market failure of a more rigid licensing system.

The MDBA should consider the work undertaken for the Victorian Government by ACIL Tasman<sup>3</sup> which illustrates the substantial legal, regulatory and operational issues associated with incorporating interception activities into a water trading and or water licensing system. The ACIL Tasman work also raises serious questions about the cost effectiveness of proceeding down such a path.

**Recommendation 9:** *The MDBA will need to further explore, and consult on, the potential different types of regulatory measures, if required for an interception activity.*

**Recommendation 10:** *Out of the full range of potential regulatory measures, A3P supports a more flexible, market-based measure that provides certainty, values the asset, tradeable, and allows the water to be utilised to its optimal use.*

- **'Environmental water' and benefits of Plantations [Question 4.3.2]**

A3P notes that the Issues Paper makes the important point that some 'take' for purposes can be described as 'environmental' in nature (that is has positive environmental impacts in particular on water and water associated assets) as distinct from consumptive water.

A3P feels there needs to be further detail and clarification around the proposal of 'environmental' water:

- Definition of 'environmental water';
- Proposed amount (proportion) of 'environmental water' to be excluded from SDL regulation and how that amount is proposed to be calculated;
- Treatment of 'environmental water' and 'consumptive water'.

Further A3P reiterates the demonstrable and long known environmental benefits of plantations and forestry that include:

- Control and mitigation of soil erosion impacting on sustainability of the landscape, soil fertility and water quality;
- Control and mitigation of soil salinity impacting on sustainability of the landscape, soil fertility and water quality;
- Direct impacts on water quality into key catchments; and
- Carbon cycling and contribution of these landscape activities to mitigating climate change effects.

In an environment of retreating rural and regional economic health and a trade imbalance in wood products, A3P members create and sell more than \$4 billion of products, and directly employ more than 13,500 people in plantation operations, sawmills, and paper manufacturing plants, mainly in rural and regional areas of Australia, and indirectly this economic activity supports many more, for example through customers, suppliers, contractors, downstream processors, and service employment. The plantation growing, timber, and fibre processing industries are very important, and have significant direct and indirect positive environmental, economic and social benefits to rural and regional communities in Australia.

**Recommendation 11:** *MDBA in the Basin Plan should further detail and clarify the key proposed aspects of 'environmental' water.*

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<sup>3</sup> *Land use change and water interceptions: research into Victorian policy options, ACIL Tasman August 2008*

**Recommendation 12:** *MDBA in the Basin Plan should consider and balance the demonstrable positive environmental, economic and social benefits of plantations when considering the significance of this activity as incidental interception.*

- **Community and Stakeholder Engagement in Developing the Basin Plan**

Although A3P appreciates the MDBA desired timelines for development of the Basin Plan it should not be at the expense of a measured, evidence-based approach (incorporating the results of the proposed research programs) that has effective community and stakeholder engagement and consultation before release of the Basin Plan.

**Recommendation 13:** *MDBA has effective community and stakeholder engagement prior to the release of the Basin Plan.*

- **Conclusion**

A3P urges the MDBA and other relevant bodies to consider the recommendations detailed above, and the elements of the *Australian Plantation Industry National Water Policy* when dealing with interception in super-regional and regional water plans.

The plantation timber industry looks forward to working constructively with the MDBA as the Basin Plan continues to be developed.

Yours sincerely

**RICHARD STANTON**  
Chief Executive Officer

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**ATTACHMENT 1: Australian Plantation Industry National Water Policy.**

# National Water Policy

## The Australian plantation industry

The Australian community is becoming increasingly aware of the need to use our water resources more efficiently. As a responsible land user, the plantation industry has a role to play, in national water management alongside other dryland agricultural land users.

To assist this process the Australian plantation industry, represented by the Australian Plantation Products and Paper Industry Council (A3P), the Australian Forest Growers (AFG), the National Association of Forest Industries (NAFI) and Timber Communities Australia (TCA) has developed a national water policy and principles for dealing with interception in regional water plans.

## National water policy

1. Plantation forestry is a dryland (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 dryland 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.

### Supporting organisations:



## Discussion:

The plantation industry acknowledges that:

- Forests (native and plantation) intercept a greater proportion of the total rainfall they receive than does grassland or pastures.
- Plantations are however, typically a much smaller proportion of the land area than other dryland agricultural land uses and the overall effect on water interception may be smaller in significance than the more extensive land uses.
- Forests (native and plantation) play an important and positive role in protecting and improving water quality by protecting soil from erosive forces. Plantations can also assist in managing dryland salinity by reducing recharge to groundwater and thereby potentially reducing salinity of waterways.
- The National Water Initiative (NWI) identifies certain land use change activities (including large scale plantation forestry) as having the potential to intercept significant volumes of surface / ground water.
- The NWI requires assessment of the significance of the impact of these land use change activities on catchments and aquifers, based on an understanding of the total water cycle, economic and environmental costs and benefits of the activities of concern.
- Appropriate planning, management and regulatory measures will be applied to land use change activities where necessary to protect the integrity of the water access entitlements systems and the achievement of environmental objectives.

The plantation industry considers that the implications of the interception of rainfall by plantations has been greatly exaggerated. This exaggeration has occurred in several ways:

- Plantation expansion scenarios are unrealistic and always biased grossly towards extreme overestimates (e.g. the CSIRO and MDBC publication "Risks to the Shared Water Resources of the Murray-Darling Basin" (MDBC Publication 22/06).
- Scaling up from small catchment studies has not adequately taken account of the areas within a plantation that are not intercepting at the 'maximum' rate. For example generally between 10 and 30% of the gross plantation area is not planted due to native vegetation retention, streamside buffers, roads and firebreaks. Within the planted area interception is reduced by fallow periods, time before canopy closure and plantation thinning.
- 'Impact' or water consumption figures are sometimes taken at source and ignore the very significant evaporation losses associated with the very large distance between the plantation and the downstream allocation owner.

## Principles for Dealing with Interception in Regional Water Plans

The plantation timber industry continues to make a positive contribution to the implementation of the NWI. The following framework has been developed to assist the process of considering interception activities in the development of water plans:

1. A community consultation process on its own is not adequate to determine the significance of increased water interception associated with land use change. The significance must be demonstrated by science and socio-economic analysis conducted within the following principles.
2. Identification of significant interception resulting from land use change should include all forms of change in land use and land management practices which may result in increased or decreased interception of surface and/or ground water, including:
  - farm dams and bores;
  - interception, diversion and storage of overland flows;
  - clearing of native vegetation for urban development or agriculture;
  - afforestation and reforestation of land previously cleared for agriculture (whether natural or human induced);
  - new crop establishment including:
    - timber plantations;
    - horticulture;
    - grains; and
    - fodder crops.
  - changes in agricultural land management practices including:
    - stubble retention;
    - minimum or zero tillage practices; and
    - pasture improvement, rotational grazing, perennial pastures and drought resistant crops.
  - changes in plantation management practices including:
    - rotation age;
    - species;
    - thinning regimes;
    - period of fallow between crops; and
    - treatment of logging slash.
  - removal and regeneration of vegetation by controlled or uncontrolled fire.
3. For each of the above forms of change in land use and/or land management practices within a water plan region the following should be quantified as accurately as possible:
  - the magnitude of likely impact on water quantity and quality over the plan period;
  - the variability of this impact from year to year; and
  - the error associated with the above estimates.
4. The estimation process must deal accurately with the extrapolation of impacts from detailed level (e.g. individual dam, plantation or paddock) up to a catchment or regional scale. This extrapolation process must accurately reflect the extent, configuration and timing of the land use or management practice change which is leading to the impact on water yield.
5. The threshold size of the interception to be used as the basis for defining the significance of a water interception activity should be determined having regard to regional circumstances and taking account of impacts on regional natural resource management outcomes.
6. The efficiency of the use of intercepted water to provide community, environmental and economic benefits through plantation management should be understood and compared with the efficiency, benefits and disbenefits of potential alternative water uses.

## Supporting organisations:



The Australian Plantation  
Products and Paper  
Industry Council (A3P)  
[www.a3p.asn.au](http://www.a3p.asn.au)



The Australian Forest  
Growers (AFG)  
[www.afg.asn.au](http://www.afg.asn.au)



The National Association  
of Forest Industries  
(NAFI)  
[www.nafi.com.au](http://www.nafi.com.au)



Timber Communities  
Australia (TCA)  
[www.tca.org.au](http://www.tca.org.au)