



## **SUBMISSION TO MURRAY-DARLING BASIN AUTHORITY**

### **Development of Sustainable Diversion Limits for the Murray Darling Basin: Issues Paper**

**18 December 2009**

#### **Introduction**

The National Association of Forest Industries (NAFI) is the peak representative body for Australia's forest industry. NAFI represents the industry's interests to the public, governments and authorities on matters relating to the development and sustainable use of Australia's forests and wood product industries.

With respect to the Murray-Darling Basin, forestry represents a relatively small proportion of the total area of land use. Plantation forests, being interceptors of water (i.e. rainfall) before it reaches streams and aquifers, are a minor land use. This is true even at the smaller catchment and sub-catchment scale.

Nevertheless, trees, along with other vegetation interceptors, are part of the 'cloud-to-cloud' water cycle<sup>1</sup> and their water use may be significant in some areas and at some scales. How this water use may be accounted for and managed in an equitable manner within the overall water management system is a critical task for policy makers.

State jurisdictions are seeking to implement Sections 55-57 of the National Water Initiative (the interception sections) with varying degrees of understanding and interpretation. The common theme, however, is a focus on plantations as a perceived major interceptor with little regard to other land use changes and agricultural technological developments, such as dairy expansion and perennial pastures that are also part of the cloud-to-cloud water cycle.

This means that water strategies being proposed in a number of jurisdictions are narrowly focusing on managing for trees rather than managing for water across multiple land uses and water budgets.

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<sup>1</sup> *Land use change & water interceptions: Research into Victorian policy options*. Presentation, ACIL Tasman, August 2008.

While this response to the Murray Darling Basin Authority (MDBA) sustainable diversion limits issues paper focuses on interception activities, NAFI has a broader interest in the MDBA water policy framework. In this context, NAFI advocates a water policy framework that:

- is environmentally sustainable;
- is comprehensive in terms of including all the as yet unregulated water uses;
- properly balances the economic, social and environmental demands on water resources, recognising the economic and social benefits from plantation forestry;
- is equitable to all users;
- is transparent and based on sound science; and
- provides certainty of water title within the general water market.

### **Extent and impact of plantations in the Murray Darling Basin**

The Bureau of Rural Sciences estimates that plantation forests cover less than 500,000 hectares, or 0.4 per cent, of the Murray Darling Basin<sup>2</sup> and no individual large catchment has more than 2.5 per cent of plantations. Plantation expansion to 2020 is not expected to rise beyond 3 per cent. The former Cooperative Research Centre for Catchment Hydrology<sup>3</sup> has indicated that plantations established over less than 20 per cent of a catchment area have little measured effect on water yield.

Much of the plantation development within the Murray-Darling Basin is located in the upper catchments of tributaries to the major rivers. Where plantations are located in the upper 30 per cent of catchments, their impact on water yield is significantly less than in the lower 30 per cent, as the lower areas are the main runoff areas for catchments. In the 700mm rainfall zone, planting 10 per cent of the total land area of a catchment from the upper slopes down would reduce runoff by less than 10mm per annum, or 0.1 megalitre per hectare per annum.

### **Environmental sustainability and water interception**

NAFI generally supports the broad principles of the Basin Plan and sustainable diversion limits (SDL) framework for delivering the integrated and sustainable management of water resources in the Basin. NAFI notes that the SDL framework will largely limit the take of water from private consumptive uses rather than environmental water entitlements, whereby:

SDLs are required to limit the take from water resources to a level that does not compromise the ‘environmentally sustainable level of take characteristics’ of those resources. Because the use of environmental water in accordance with the environmental watering plan will not compromise the ‘environmentally sustainable level of take characteristics’ of a water resource, it will not be take that is limited by the SDL.

This effectively divides water into two general classes: environmental (not subject to SDLs) and consumptive (subject to SDLs). This raises a number of important questions regarding how much water in any given water resource planning (WRP) area is considered ‘environmental’ and how that amount is to be calculated. As outlined in the issues paper,

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<sup>2</sup> *Water Availability in the Murray-Darling Basin*, CSIRO, October 2008

<sup>3</sup> *Plantations, river flows and river salinity*, Rob Vertessy, L. Zhang and W. R. Dawes, CRC for Catchment Hydrology, 2003

some purposes that can be described as ‘environmental’ may in fact compromise sustainability principles.

According to Section 22 of the Water Act, the Basin Plan needs to take into account:

The maximum long-term annual average quantities of water that can be taken, on a sustainable basis, from: (a) the Basin water resources as a whole; and (b) the water resources, or particular parts of the water resources, of each water resource plan area. The averages are the long-term average sustainable diversion limits for the Basin water resources, and the water resources, or particular parts of the water resources, of the water resource plan area.

The SDLs will set enforceable limits on the quantities of surface and groundwater that can be taken from the Basin that are considered by the MDBA to be environmentally sustainable. The difficulty lies in deciding what is sustainable in any given circumstance. The Water Act does not provide guidance on the meaning of sustainable limits, with some clarification in the issues paper, as follows:

These limits must be set at a level that the MDBA, using the best available scientific knowledge, determines to be environmentally sustainable. This is defined as the level at which water in the Basin can be taken from a water resource without compromising the key environmental assets, key ecosystem functions, the productive base or key environmental outcomes of the water resource.

These four key environmental aspects represent the ‘environmentally sustainable level of take characteristics’ that SDLs are designed to regulate. The issues paper outlines a research program to better identify and clarify these aspects of sustainability and associated water requirements.

NAFI supports the need for such information and the development of a scientific and transparent framework for determining SDLs. Without such information, consultation on SDLs may seem premature and will influence the development of a draft Basin Plan by mid-2010. It will be important for all stakeholders to know and discuss what the MDBA considers to be environmentally sustainable and what types of water use and proportion of water resources in the Basin and WRP areas are likely to be included or excluded from SDLs in the medium to longer term.

### **How should interception activities be treated?**

The provisions of the Water Act recognise that SDLs are to limit the take of water by interception activities which may include afforestation. In terms of the treatment of interception activities, NAFI endorses the approach to:

- use the best available knowledge to determine which interception activities could have a significant impact on Basin water resources; and
- conduct social and economic studies to assess the context in which SDLs are being developed and the likely costs and benefits of adopting alternative SDLs.

NAFI considers it important to understand the economic and social context before setting SDLs in specific WRP areas, taking into account each interception activity against the net impact of other consumptive and environmental water uses. Without such essential knowledge, determining significant impacts will not be possible.

Section 22(3)(d) of the Water Act requires the Basin Plan to specify a range of requirements related to the regulation of interception activities with a significant impact on water resources. The intent and interpretation of this section requires further explanation before thresholds based on it can be fully considered. It would be helpful to the development of the Basin Plan to have this key issue defined and discussed with stakeholders before the draft Plan is published.

The determination of significant impact also remains a difficult methodological requirement. NAFI would generally support an ‘activity-by-activity’ basis as being the most equitable method of implementing the test of significance. With regard to forestry, the nature of trees as a long term crop (i.e. 10-30 years, depending on species and purpose), their direct relationship to rainfall and their access to groundwater are important factors in assessing significance.

The issues paper also proposes an alternative ‘cumulative’ approach to the test of significance that is ill-defined and uncertain. Is this meant to be an aggregation of same land use activities? Is this spatial, temporal or both?

Flowing from this discussion is the determination of thresholds of significance for each interception activity. The purpose of a threshold is to determine a level of impact that is considered undesirable and about which some action needs to be taken and, importantly, below which no action needs to be taken. The determination of thresholds needs to be based on transparent and sound scientific principles.

The issues paper is also vague on what suitable management approaches might be undertaken to address significant impacts. There are a range of actions being pursued and debated in the various jurisdictions and further clarification on management approaches is warranted. NAFI notes the only example provided of a suitable management approach involves the licensing of interception water use. If interception water use is to be regulated, NAFI prefers to look beyond the blunt instrument of traditional licensing to the creation of tradable water entitlements and a full water shares system. The objective is to create value for the holders of entitlements and ensure that investment and water flows to the highest value end use within a sustainable framework.

## **Summary and conclusions**

NAFI recognises the broad approach and intent of the SDL framework to provide for the integrated and sustainable management of water resources in the Basin. However, there remain a number of information gaps and issues with respect to definitions and use of SDLs in meeting environmental sustainability and broader economic outcomes.

The issues paper provides an initial first step in the consultation and development process, but does not provide sufficient information to enable a more detailed assessment of how SDLs might affect plantation forestry and other interception activities.

In terms of the treatment of interception activities (i.e. section 4.2.1), it is important that the SDL framework:

- takes a scientific and evidence-based approach to measuring environmental significance and thresholds;
- clarifies the definition of ‘environmental’ water, the proportion to be excluded from SDL regulation and how that is to be calculated;
- conducts economic and social assessments to assess the context in which SDLs are being developed and likely costs and benefits of adopting alternative SDL approaches;
- provides equitable treatment between consumptive water uses;
- addresses information gaps on the key environmental aspects of sustainability prior to further consultation and finalisation of the Basin Plan;
- clarifies the intent of s.22(3)(d) of the Water Act, particularly the meaning of ‘cumulatively’; and
- promotes the creation of tradable water entitlements, equitable with other water users, rather than licences as a management option.

It is also important to recognise that the SDL framework sits within the broader parameters of the Basin Plan. In terms of broad policy principles, NAFI advocates that the treatment of interception activities in the Basin Plan should:

- include all as yet unregulated water uses;
- balance the economic, social and environmental demands on water resources;
- be transparent and equitable to all water users;
- be based on sound science;
- provide security of access to water resources and certainty of water title; and
- provide water entitlements that are tradable.

The regime should also reflect the risk sharing principles of the National Water Initiative and recognise that regulation may have adverse retrospective impacts, in which case structural adjustment may be required.

NAFI appreciates the opportunity to make a submission to the MDBA issues paper and looks forward to working constructively with the Australian Government and other stakeholders in the development of equitable, efficient and sustainable water policy frameworks. For further information or queries regarding this submission, please contact the National Association of Forest Industries on (02) 6285 3833.