Submission – Statutory Review of the Water Act 2014

June 2014

Introduction

The Australian Forest Products Association (AFPA) welcomes the opportunity to comment for the statutory review of the *Water Act (2007)*.

AFPA is the peak national body for Australia's forest, wood and paper products industry. We represent the industry's interests to governments, the general public and other stakeholders on matters relating to the sustainable development and use of Australia's forest, wood and paper products. The forest industries support around 200,000 direct and indirect jobs nationally with a gross value of turnover of around $22 billion.

AFPA has had a long history of stakeholder engagement in the development of water policy, including the development of the Water Act and Murray-Darling Basin Plan, the National Water Initiative and the associated legislation and regulations being developed by state governments.

In general, AFPA supports the aims of the Water Act and the Murray-Darling Basin Plan, recognising the need for a whole of basin approach to ensure water resources are managed equitably and sustainably. However, AFPA has serious concerns regarding the treatment of plantation forestry in the implementation of the Water Act. Plantations have been singled out as a significant water interceptor and treated in the same way as water harvesting by run-off dams, floodplain harvesting and mining activity (including coal seam gas mining). These activities are very different from plant based water interception by commercial plantations, as they involve direct water extraction. Water interception by plantations is more consistent with that of other vegetative interception activities, such as dryland cropping and improved pastures.

In the implementation of the Water Act, water interception by plantation forests are required to be included in water resource plans (WRPs), with new plantation establishment requiring a water licence. However, other dryland farming land use change activities are, in general, excluded from WRPs. This bias in the treatment of plantation forestry is inconsistent with the objective of the National Water Initiative which requires all land use change activities to be treated equitably, efficiently, effectively and consistently. In the implementation of the Water Act, plantations should be treated in the same way as other vegetative interception activities, recognised as an 'as-of-right' crop and excluded from water resource plans.

Policy Principles

The approach taken in the implementation of the Water Act should be consistent with the principles of the National Water Initiative (NWI).

This requires:

Equitable treatment of all land uses

All land-uses should be treated fairly and equitably. This requires there to be a level of consistency in the treatment of vegetative water interception activities. Timber plantations should be treated the same as other agricultural land uses and considered an 'as-of-right' crop.

An appropriate determination of 'significance'

Effective policy should consider the 'significance' of an interception activity in the context of its impact across the broader landscape. This should take into account the scale and location of plantations within a sub-catchment, as well as the timing, management and other factors.

Management of new or additional land use change

Baselines should be established that recognise the mix of land-use at the time the policy or action is introduced. To be consistent with the NWI, the policy should not be retrospective. Existing rights and entitlements are implicit in the value of the land and should be maintained, with the policy measures dealing only with land use change and additional activities. For plantations, a change in plantation rotation should not be considered a change in land use, as following harvest the land is planted with the same crop.

Consideration given to the overall benefits to the community

The impacts of water interception from land use change must be considered in conjunction with the overall benefits of the activity to the community. This requires the policy to take into account the co-benefits of land-use change i.e. the additional social, economic and environmental benefits of plantations.

Technical decisions should be based science

Water interception policies must be underpinned by sound, repeatable and reliable science. There must be transparent, predictable and equitable rules for assessing the water interception associated with land use change. Assessment of the significance of water interception by plantations must take into account the scale and intensity of the impact and as well as geography, site characteristics, timing and management.

Poorly informed and designed policy can result in unintended policy outcomes that favour unsustainable activity, due to increased uncertainty and/or costs of potentially inequitable water policy development.

Interception

Of major concern to AFPA in the implementation of the Water Act is that authorities do not distinguish between water interception by direct water harvesting (e.g. by run-off dams, floodplain harvesting and mining activity, including coal seam gas mining) and by vegetation (e.g. by commercial plantations). This blunt approach appears to be based on a relatively crude consideration that all water intercepting activities are the same.

However, it needs to be recognised that vegetative water interception is vastly different, both directly and indirectly, to that of direct water harvesting. Trees only access rainfall at the local level. The proportion of rainfall used by trees in plantations varies widely on water availability, species, condition and stage of growth, stocking and soil characteristics. Also, trees regulate their water use according to what is available and will use less water in drought and drier conditions.

AFPA is also concerned that the consideration of vegetative water interception has focused exclusively on commercial plantations, with all other dryland farming

activities excluded from water resource planning requirements, regardless of scale and intensity of water use. However, dryland crops such as deep-rooted perennial pasture can be significant interceptors of water, both in the scale of plantings and in the degree of water usage. Agricultural land use change to high water use vegetation, such as the transition from pasture to horticulture, planting deep-rooted crops for grazing, and moving to perennial cropping, has the potential to significantly increase water interception. Yet only commercial plantations are included in the list of agricultural land use change interception activities considered as having the potential for a significant impact on surface-water yield or run-off.

Scale and Intensity of Water Use

Too often plantations are targeted in water policy debates. However, it needs to be recognised that the area devoted to large scale commercial plantations remains small, both in total and compared with pasture and cropping activities.

The Australian Bureau of Agricultural and Resource Economics and Sciences estimate the total area of forest plantations in the Murray-Darling Basin (MDB) is around 290,000 hectares, or approximately 0.28% of the total Basin area. It is also important to note that over 70% of the plantations in the Basin area were established on ex-native forest sites, with water interception on these sites largely consistent with the original vegetation cover.

In the sub-catchments with the highest concentration of plantations, Murrumbidgee River, Upper Murray River and Lachlan-Macquarie rivers, plantations account for only about 4, 2.5 and 1.5% respectively of those catchment areas.[1] This contrasts with the area of dryland pasture and dryland cropping, which represent 66.7% and 10.5% respectively, of land use in the Murray and Murrumbidgee catchments.[2]

While trees use more water than grasses and other agricultural crops on a per hectare basis, perennial pastures and crops occupy far more land area (more than 200 times), therefore intercept a far greater amount of water than plantations at catchment and sub-catchment levels. It is inequitable to focus plantations as significant water interceptors when their impact on water yield is likely to be far less than that of other land users that are excluded from water resource plans.

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[1] *Australian forest and wood products statistics*, March and June quarters 2010, ABARE November 2010
[2] *ABARE Vegetation Extent – Integrated Vegetation.* Accessed Online at http://adl.brs.gov.au/intveg/

Moreover, research indicates that planting less than 20% of a catchment to forest does not have a measurable impact on stream flow or water yield.[3] As no catchment in the Murray-Darling Basin has (or is planned to have) more than 5% coverage by forestry plantations, it is reasonable to conclude that water interception by plantation forestry is unlikely to have a "significant" impact on water yield and stream flow.

Further, where interception occurs within the catchment water system is just as important as the amount of water intercepted. Research indicates that where plantations are located in the upper 30% of catchments, their impact on water yield is significantly less than in the lower 30%, as the lower areas are the main run-off and recharge areas for catchments. Research by the CRC for Catchment Hydrology (2003) has shown that, in the 700mm rainfall zone on the upper slopes, planting less than 10% of the local land area of a catchment would reduce runoff by less than 10mm per annum, or 0.1 megalitre per annum.[4]

As most plantations within the Murray-Darling Basin is located in the upper catchments of tributaries to the major rivers, they typically have little impact on water yields. Analysis by Polglase and Benyon (CSIRO 2010) on the impacts of plantations on water security shows that at a regional and a national scale "the impacts of plantations on water security have received an unwarranted emphasis. This is especially true when considered at the whole-of-catchment scale".[5]

Multiple Criteria Decision Making

Water yield should not be the sole determinant of the value of an activity in a catchment. It is also important to recognise the multiple public good benefits that plantations provide to catchments and the communities that rely on them. In evaluating the water interception by plantations, AFPA emphasis the need for a triple, bottom line approach, with the decision-making based on multiple criteria that recognises these public good characteristics of forestry.

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[3] *Tree water use in forestry compared to other dry-land agricultural crops in the Victorian context*. ENSIS Technical Report No 159, January 2007

[4] *Plantations, river flows and river salinity*. Rob Vertseey, L. Zhang and W.R. Dawes, CRC for Catchment Hydrology, 2003

[5] *The Impacts of Plantations on Water Security: Review and Scientific Assessment of Regional Issues and Research Needs*. Polglase, P. and Benyon, R. CSIRO National Research Flagships, 2010. p.52.

Relative to other forms of agricultural land use, plantations provide real water quality benefits, with lower soil erosion and chemical use than pastures and cropping. Plantations also offer a range of other environmental benefits such as salinity mitigation, carbon sequestration and biodiversity enhancement.[6] In addition, plantations provide a range of social benefits, such as recreation and amenity services, diversification of regional economies and rural employment opportunities. However, in water system planning and decision-making it appears that water yield is the only consideration.

AFPA suggests that a more sophisticated and evidence-based approach needs to be adopted in the proposed management of water interception activities. AFPA is concerned that focusing solely on water yield when assessing the impacts of plantations on catchments, rather than not multiple criteria that includes the environmental and social benefits of plantations, will lead to perverse outcomes.

Concluding comments

In the implementation of the Water Act, AFPA is concerned that plantations have been unfairly targeted as significant water interceptors and have not been treated equitably with other vegetative water users. Plantations are being treated in the same way as direct water extracting activities, which requires to be included in Water Resource Plans, with new plantation establishment requiring a water licence. In contrast, other vegetative interception activities, which are excluded from water resource plans and recognised as 'as-of-right' activities. This runs counter to the spirit and intent of the National Water Initiative, which requires all land use activities to be treated equitably, effectively, efficiently and consistently.

In the implementation of the Water Act, it is important that plantations are considered in the right context, taking the relative scale and intensity of water use into consideration at a catchment level. It needs to be recognised that plantations occupy only a very small proportion of the basin and their impact on water yield and stream flow at the catchment and sub-catchment level is very small and insignificant.

AFPA is concerned that this focus on water interception by plantation forestry will lead to perverse outcomes, with water use constraints and licencing requirements

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[6] *Plantations and Water Use: A Review*. Keenan, R.J., Parsons, M., Gerrand, A., O'Loughlin, E., Gunawardana, D., Garvran, M., and Bugg, A. 2004. Bureau of Rural Resources, Canberra. p iii.

likely to exclude plantation establishment in areas where plantations can provide substantial economic, environmental and/or social benefits.

In the implementation of the Water Act, AFPA suggest that a broader focus is needed. Plantations should be treated equitably with other vegetative land uses and recognised as an 'as-of-right' crop. In addition, policy makers should aim to maximise the total benefit of land use activities, not focus narrowly on water use to the detriment of other important economic, social and environmental benefits.