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SA Dairyfarmers'  
Association Inc

28 May 2018

Mr Bret Walker SC  
Royal Commissioner  
Murray-Darling Basin Royal Commission  
GPO Box 1445  
Adelaide SA 5001

Dear Commissioner,

**Re: Issues Paper 2**

I am writing to you regarding the second issues paper which has circulated regarding the interpretation of the *Water Act* (Cth) 2007 with regard to the matter of the supremacy of the ecological ambitions of the Act.

At paragraph 36 of the Issues Paper it is asserted that:

*"It seems clear that the definition of ESLT is to be determined on the basis of four criteria that are exclusively environmental considerations."*

Reliance for that assertion is placed upon the definition of "*Environmentally sustainable level of take...*", which relies on four elements:

- key environmental assets of the water resource, or
- key eco-system functions of the water resource, or
- the productive base of the water resource, or
- key environmental outcomes for the water resource.

It is noted that the matter of the interpretation of "*productive base*" is attended to with a footnote relating to the issue of that phrase's meaning. The reader is invited to consider the application of an environmental interpretation applied by the Murray Darling Basin Authority which considered page 30 *The Proposed Environmentally Sustainable Level of Take for Service Water of the Murray Darling Basin: Methods and Outcomes* (November 2011).

That document provides:

*"4.3 The productive base*

*The Water Act does not define the productive base, so the MDBA has used advice drawn from Reid/Piko et al. (2010) which found that productive base is not widely employed or well supported concept in the literature. Taken broadly it equates to ensuring that ecosystem services are supported. Ecosystem services are the benefits that humans obtain from ecosystems. They can be divided into provisioning, regulating, supporting and cultural services. Ecosystem services are influenced by ecosystem conditions and ecosystem processes. In determining the ESLT, Reid-Pike et al. (2010) conclude that there would be little to be gained by separately distinguish ecosystem services from the productive base and they should be treated synonymously.*

*Ecosystem services as a concept is still in development, and current empirical evidence on environmental water quantities needed to support ecosystem services is relatively immature. The relationship between biodiversity and ecosystem services is not sufficiently understood; scale inconsistencies remain unresolved and establishing robust measures for calculating human value*

and then disaggregating it to the ecosystem service level is a developing field  
Reid-Pike et al. (2010).

*In determining the surface water ESLT, MDBA considers that by providing environmental water for key ecosystem functions and key environmental assets, productive base water requirements will also be supported (see Appendix A for further details). Further research and experience in the management of environmental water through adaptive management processes will continue to inform the establishment of environmental water for ecosystem services and thus productive base."*

It is noted that the MDBA stated that the interpretation was uncertain relied on a report by Ried/Piko<sup>1</sup> who, as the MDBA pointed out that the phrase was not widely employed or well supported. However, the MDBA may have been unintentionally misleading regarding the expression as considered by the Ried/Piko.

The report by Ried/Piko provides:

## **2.6 Productive Base**

### **Review of definitions**

*"Productive Base is a term not used before in scientific literature, and thus there is limited reference to it within the MDB, except for it being a new term used within the development of the Basin Plan. It is not defined in the Water Act 2007. Thus we must review where these words have been used before and how they relate to the MDB. Production is the conversion of inputs into outputs. It is the process that uses resources to create a good or service that is suitable for exchange. Production is a process, and as such it occurs through time and space. Because it is a flow concept, production is measured as a "rate of output per period of time". There are three aspects to production processes:*

- 1. the quantity of the good or service produced,*
- 2. the form of the good or service created,*
- 3. the temporal and spatial distribution of the good or service produced.*

*A production process can be defined as any activity that increases the similarity between the pattern of demand for goods and services, and the quantity, form, and distribution of these goods and services available to the market place (Wikipedia 2009).*

*In ecological terms, production is among the most fundamental characteristics of ecosystems as it is a process by which energy moves through the food chain. In aquatic systems primary production is the rate of transformation of inorganic carbon (from carbon dioxide in the air or in the water) to organic carbon principally via photosynthesis (Hall et al. 2007; Wikipedia 2009).<sup>23</sup> Primary producers form the base of the food chain, with the various consumptive processes comprising secondary production. Since the productive base involves conversion of inputs to outputs, all stages of the productive cycle - primary and secondary production - must be considered as components of the productive base. However not all of the energy captured by primary producers is available as organic carbon for secondary production. Some of the energy is used to sustain essential metabolic respiration (Odum 1956). Multiple steps, within a complex food chain, recycle a large proportion of carbon via different biotic groups. This means that total secondary production can appear to be greater than primary production (Strayer 1988).*

*In November 2003, the MDBC Ministerial Council in its announcement of the Living Murray First Step stated that "The River Murray is degraded and this degradation threatens the Basin's agricultural industries, communities' natural and cultural values, and national prosperity". One of the reasons that the fate of the Basin's communities is tied to that of its natural resources is that the agricultural production that sustains Basin communities is dependent on a similar suite of Ecosystem Functions/Services to the Ecosystems primary and secondary production. Thus, the productive base*

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<sup>1</sup> Gigney, H, Gawne, B, Reid-Piko, C, Hladyz, S, Kattel, G, Kavanagh, M, Meredith, S, and Petrie, R 2010, Clarification of definitions in the Water Act 2007, Report prepared for the Murray-Darling Basin Authority by The Murray-Darling Freshwater Research Centre.

*requirements can only be met once the ecosystem services requirements (i.e. ecosystem functions) are met. Therefore, the processes underpinning them are the same.*

### **Recommendation**

*It is recommended that the MDBA define the Productive Base as the support offered by ecosystems, ecosystem functions and ecosystem services of a water resource to provide for ecological and human (economic and social) production.”*

This conclusion is not consistent with the exclusivity as contemplated by paragraph 36 of Issues Paper (No 2).

In Issues Paper (No 2) at paragraph 41 the notion is postulated that “A Basin Plan that seeks to simultaneously grapple with economic, environmental and social outcomes might achieve the optimisation of none of them.” It may also, it is respectfully suggested as a counterpoint that it also achieves the opposite, namely, all of them.

Issues Paper (No 2) is possessed of an underlying presumption that is not necessarily reflected in the philosophy of the Water Act. The Objects section of the act section 3 of the Water Act provides that, inter alia:

*(a) to enable the Commonwealth, in conjunction with the Basin States, to manage the Basin water resources in the national interest;*

...

*(c) in giving effect to those agreements, to promote the use and management of the Basin water resources in a way that optimises economic, social and environmental outcomes;*

...

*(d)...(iii) subject to subparagraphs (i) and (ii)—to maximise the net economic returns to the Australian community from the use and management of the Basin water resources;*

...

*(e) to improve water security for all uses of Basin water resources;*

The Issues Paper (No 2) argues that there is a matter of primacy regarding the ecological ambitions of the legislation relegating other demands to secondary consideration. SADA feels that such a construction cannot be so readily arrived at.

While there cannot be doubt that ecology forms a part of the intent of the legislative instrument, we however believe that the proper construction is one of compromise seeking to balance the needs of the environment with the human socio-economic needs.

If interpretation of the *Water Act* is predicated on the notion that humans are part of the environment rather than somehow exclusive to the environment the context of the objects of the *Water Act* make more contextual sense. It is this presumption that forms the ambition of the Parliament that created it.

The MDBA also apply that lens when they state:

*“There is little to be gained by separately distinguishing ecosystem services from the productive base and they should be treated synonymously.”<sup>2</sup>*

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<sup>2</sup> page 30 *The Proposed Environmentally Sustainable Level of Take for Service Water of the Murray Darling Basin: Methods and Outcomes* (November 2011).

Again, the notion of a shared intent is captured in the bill's introduction into the House of Representatives. In introducing the Water Act on 8 August 2008 Malcom Turnbull said in his second reading speech:

*"The reforms set out in this bill are the most far-reaching in the history of water management in Australia. But they are indeed a necessary consequence of our recognition of the great challenges facing Australia's environment and the farmers and communities that depend on it."*

This also is reflected in the intention of the signatories to the 2013 (revised 2017) Intergovernmental Agreement for Management of the Murray Darling Basin which provided at 1.2:

*"The objective of this Agreement is to ensure that the Commonwealth led Basin water reforms, including the Basin Plan, are implemented in a cost effective manner to support the national interest of improving river and wetland health, putting water use on a sustainable footing, enhancing irrigation productivity, providing water for critical human needs, and providing farmers and communities with more confidence to plan for a future with less water."*

SADA expresses the belief that the intended definition of "environmentally sustainable level of take" is not intended to be as restrictive as the Commissioner has suggested in the second Issues Paper and that the exclusivity ascribed to the definition by the commissioner, with particular reference to the words, "productive base", can be read down in the fashion suggested by the Commissioner as to create the hierarchy suggested.

The legislation and for what it is worth the community leaders who participated in its drafting and passage did not intend or express an intent to create such a hierarchy. Naturally, any court asked to decide on the question will look to the legislation itself for the meaning of the text, but even in that context it is suggested that the text was intended to create a balance between competing interests rather than a hierarchy of interest as suggested in the Issues Paper (No 2).

Consequently, as per our first submission, SADA is not moved from its position that 3,200 GL should be recovered for the health of the Murray River, however, we do not concur with the assertion that the Act creates a hierarchy as suggested and therefore the MDBA are correct in applying the 'Guide to the Proposed Basin Plan' (2010) in the fashion that they have.

I thank the Commissioner for attending to these matters with such care and look forward to observing the process of the Commission.

Yours faithfully,

John Hunt  
President SADA