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THE UNIVERSITY OF MELBOURNE

December 20, 2010

Re: Submission to the Inquiry into the impact of the Murray-Darling Basin Plan in Regional Australia by Assoc. Prof. Andrew Western

Dear Secretary of the Standing Committee on Regional Australia

I am Associate Professor in in the Department of Civil and Environmental Engineering, The University of Melbourne. I have twenty years experience in research, teaching and consulting in the field of Hydrology and Water Resources and have a particular interest boht modelling and field investigations in hydrological and water quality processes in catchments and streams.

I am writing to express my concerns regarding longer term sustainability of aspects of environmental water management associated with "environmental works and measures", which often refers to artificially directing water into wetlands. In the current political climate surrounding the Basin Plan there is significant pressure to pursue infrastructure that allows minimal water to be applied to environmental assets. While this has some clear benefits in terms of reducing water consumed by the environmental assets, I believe it has some longer-term risks that need to be carefully considered.

Initial ecological responses to artificial watering (usually water pumped into wetlands to date), have been positive in a variety of trial situations in the basin. However, a significant proportion of water applied to wetlands in such a way often evaporates rather than flowing through the wetland systems and back to the main river. My concern is that in the longer term there is potential for significant salt accumulation in these assets unless appropriate flows through the wetlands are provided for in the water management plans and infrastrucute designs.

In addition, leaching of salts from floodplain soils requries inundation and while vegetation such as Red Gums fringing wetlands may respond positively to initial artificial watering, a certain amount of flood plain innundation will be required in the longer term to remove salts from the root zone. Therefore sustaining these assets in the longer term will require water being returned to flood plains in addition to core wetland areas such as billabongs.

While I recognise there is reference to salinity management plans in the Basin Plan, these seem to be centred around a whole of basin export figure. Unless such plans are brought down to the asset scale, I believe this is a significant risk to the longer term sustainability of local assets and that this risk is particularly significant where infrasturcture measures aimed at minimising water

Department of Civil and Environmental Engineering
The University of Melbourne, Parkville Victoria 3010 Australia
Telephone: +61 3 8344 6789 Fax: +61 3 8344 4616

application to parts of wetlands are implemented. This risk needs to be clearly addressed in designing and accrediting such approaches.

Yours sincerely,

Associate Professor Andrew Western
Department of Civil and Environmental Engineering
The University of Melbourne