Comments on 'A framework for determining Commonwealth environmental watering actions' – a discussion paper.

In general I think the paper and the framework it describes are excellent. It is detailed, relevant, flexible and dynamic and clearly the result of a lot of thinking about how to maximise the ecological outcomes of environmental watering in a highly variable and uncertain context. It provides an excellent basis for environmental watering considerations over the next couple of years and a great input into the MDBA's EWP.

Question 1.
We welcome the attention afforded throughout the paper and framework to "interdependent life supporting connections and processes" and not just a "series of independent, albeit high value sites or river reaches" ie we are pleased to see the department and framework considering ecological processes and not just 'icon sites' or discreet assets.

More emphasis on monitoring and evaluation to enable adaptive management and continued resourcing would be beneficial.

We note the mention and importance of land-use practices in securing and using environmental water but there is no discussion about the lack of Commonwealth power in relation to such land-use practices, for example, works on floodplains which will have very significant impacts on the ability of environmental water managers to acquire, shepherd and use environmental flows.

Some omissions or areas that could be further drawn upon are indigenous knowledge and participation in how to optimise environmental watering outcomes. This would complement the science based, process driven nature of the framework as it currently stands. Also, while non-CEWH environmental water is clearly intended to be used cooperatively with CEWH water, indigenous cultural water may also be appropriate for inclusion in the mix by agreement with Traditional Owners but separately accounted for etc.

The framework will work well in the southern, regulated basin but is probably less well tailored to the situation in the northern, less regulated basin. The characteristics of the northern and southern basins are different and they need different approaches although clearly the framework is designed to be flexible.

The paper itself (or at least readers of the paper) would benefit from a glossary of terms like 'adaptive rules-based environmental flows'; 'planned environmental water'; and 'held environmental water' and perhaps some examples of their characteristics and use.

The characteristics of a sustainable basin wide system as articulated on page 4 are comprehensive but very qualitative and subjective.

Question 2.
ACF supports the proposed ecological objectives under different water availability scenarios.

However, although the anticipated, likely impacts of climate change on rainfall, runoff and water availability etc are mentioned in the paper I think it would benefit from a frank discussion of this and consideration of how to deal with it in the bigger picture and longer term if the median scenario undergoes a permanent, drying shift and what we currently consider extreme dry becomes dry or median and therefore changing the ecological objectives under each scenario. Clearly long term climate shifts will have a bearing on the realities of what is achievable and what is not and the framework and paper is a good starting place for a discussion about what this could mean and how to address it.

Another way of optimising water use benefits, including environmental water use is to review and modify some operational activities, for example, changing the seasonality of bulk water transfer so that is it ecologically appropriate, where consumptive water could be used to provide specific ecological benefits and losses accounted for from environmental accounts and / or provide increased 'base flow' upon which to 'float' environmental water to increase the likelihood of securing over-bank events or getting to higher areas.

Works on floodplains and other infrastructure also has the capacity to increase or decrease the ability to secure ecological benefits and whilst this paper is couched 'within certain system restraints' it's worthwhile noting that works might often be warranted to get the best out of the water used and likewise it may often be cost effective to invest in decommissioning works.

A more detailed discussion on carryover water and the potential and constraints on optimising carryover arrangements would be useful and thought provoking.

Question 3.
The four main steps and their use in practice will no doubt benefit over time from their repeated application and the process of learning by doing. As they stand they are a great starting point.

The availability of regulated water during an irrigation season, an administrative process designed to suit the needs of irrigators rather than the, is clearly a limiting feature in water availability and matching it with ecological need and so modifications to carryover rules, at a number of different scales, may be warranted to ameliorate this and should be considered as part of a related process of improving water use and governance in the MDB.

Cooperative water use is clearly envisaged in a comprehensive and complex system where a multiplicity of organisations own and manage different water entitlements and manage and understand ecological assets and processes at different scales, for example, CMAs and basin state government departments. We hope this complexity makes room for non-governmental, on-ground knowledge and active input from individuals, land-holders, indigenous people and organisations like the Murray Wetlands Wording Group.

There have been instances of delay or cancellation in environmental water delivery resulting from uncertainty about exactly what responsibility and liability lies where

and with whom and so good advance planning in this regard would promote efficient decision making and implementation.

Question 4.
It is an adequate starting point that will evolve and improve with use and further scientific and technical input. The information sources would benefit from being broadened to encompass indigenous input and other, non-governmental, on the ground knowledge, for example the Murray Wetlands Working Group.

Question 5.
The various studies/tools and frameworks are all important and will influence the evolution of the framework. One concern is that at some point things could get unwieldy, so uncertain and so complex that they grind to a halt. No-one should underestimate the complexity of the issues at stake but at the same time there needs to be a degree of expediency and cutting through the complexity involved, taking a common sense view that will return an adequate flow of water, at the right time of year, for long enough and with sufficient frequency that it meets the water needs of a water dependent ecosystem.

Question 6.
Again, there is scope for cooperative use of indigenous / cultural water and the entire process would benefit from indigenous as well as on the ground input from groups like the Murray Wetlands Working Group.

The role of environmental water managers will be important in the success or failure of environmental watering plans and issues like resourcing, independence, skills and resources at an individual and organisational level should be supported.

Question 7.
I'm intrigued by criterion 8, *'whether the asset will survive with natural watering plus occasional supplementary environmental watering, or whether it be totally reliant on environmental watering for survival.'* On what basis is this decision reached? This is something of an elephant in the room in relation to the Basin Plan and the component sustainable diversion limits and environmental watering plans and is an important part of trade off decisions as part of that. It is a serious issue – given the realities of climate change, damage already caused or in train and quantitative constraints on water recovery, what *do* we plan to restore and sustain in terms of ecological assets in the MDB - but beyond the application of common sense I'm a little surprised that it is incorporated as a decision making criterion so early in the planning process.