



Conservation  
Council SA

RIVER, LAKES & COORONG  
ACTION GROUP INC.

Winner of the 2009 Jill Hudson Environmental Award



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12 July 2011

Tim Wyndham,  
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**Re: Discussion Paper, June 2011 - A Proposed Monitoring, Evaluation and Reporting Framework for the Commonwealth Environmental Water in the Murray-Darling Basin**

Dear Tim Wyndham,

The River, Lakes and Coorong Action Group Inc. (RLCAG) and the Conservation Council SA (Conservation Council SA) appreciate the opportunity to comment on the Discussion Paper (DP) re Monitoring, Evaluation and Reporting (MER) Framework for the Commonwealth Environmental Water (CEW) in the Murray-Darling Basin (MDB).

RLCAG is an independent community-based, action-oriented organisation with expertise in river ecology and a track record of engaging with MDB matters via submissions, symposia, meetings and campaigns (see Appendix One).

RLCAG was established in January 2007

- *to protect, conserve and enhance the biodiversity of the River Murray, Lakes and Coorong;*
- *to liaise with appropriate bodies over the management of the River Murray, Lakes Alexandrina and Albert and the Coorong, and their immediate surrounds; and*
- *to educate the Community in River Ecology.*

The Conservation Council of SA is an independent, non-profit and strictly non-party political organization representing over 50 of South Australia's environment and

conservation organizations and their 60,000 supporters. Conservation Council of SA has developed a comprehensive view of environment policy in “South Australia in a Changing Climate: A Blueprint for a Sustainable Future” This document sets out, at a strategic level, policy positions in six key environmental areas including water.

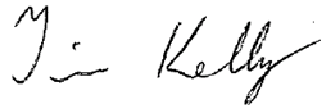
With respect to the Discussion Paper (DP) our comments address three matters:

1. Overall Approach: The need for further clarification and refinement of the overall approach with respect to (a) core concepts, i.e. adaptive management and climate change (b) resourcing of the MER process and (c) modelling;
2. Specific questions: Nos 1-6 from the Discussion Paper
3. Future Actions
4. Resource Bibliography

Please do not hesitate to contact us if we can be of further assistance.



Professor Diane Bell, Chair: RLCAG  
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Tim Kelly  
CE, Conservation Council SA



June 2011: Tides and currents

The Murray Mouth: Icon site and indicator of the health Murray-Darling Basin system

The Murray Mouth: closed over in 1981, the first time in millennia; between 2002-2010 it was dredged to keep it open; it is now flowing and flushing to sea the 2 million tonnes of salts and pollutants that accumulate from the MDB each year.

See [www.hurrysavetheMurray.com](http://www.hurrysavetheMurray.com); [www.flickr.com/photos/dibell](http://www.flickr.com/photos/dibell)

**The River, Lakes and Coorong Action Group Inc and the Conservation Council SA  
Comments on  
A Proposed Monitoring, Evaluation and Reporting Framework for the  
Commonwealth Environmental Water in the Murray-Darling Basin  
Department of Sustainability, Environment, Water, Population and Communities  
Discussion Paper, June 2011**

**1. Overall Approach: The big picture**

We agree that with the Discussion Paper (DP) proposition that a ‘robust approach’ will support ‘good governance and adaptive management’ (DP p. 3). In reaching for these goals, we address our comments towards the need for

- further refinement of core concepts embedded in the DP;
- adequate resourcing of the Monitoring Evaluation and Reporting (MER) process;
- modelling based on connectivity – including ecological factors, resources and decision-making processes – rather than a piecemeal approach that isolates elements of the system, potentially creates competition for limited resources, pits stakeholders against each other and thus undermines the holistic and integrated management advocated in the DP.

*1 (a) Core Concepts in need of further explication*

- Adaptive management: What is it? Can it work at this scale? Feedback loops? Who is a stakeholder? How will it be resourced?
- Climate Change: Scenarios; ground and surface water; ongoing research and feed back

*Adaptive management* is a seductively simple concept but a challengingly difficult regime to implement and, to the best of our knowledge, it has not been tried on a scale of the complexity and reach of that manifest in the MDB.

When properly resourced, creatively managed and openly assessed, adaptive management is an ongoing process that offers:

- purposeful flexibility in the face of rapid change and uncertainty;
- a recognition that learning is non-linear and that eco-systems are complex and dynamic ;
- the possibility of input from diverse sources, experts, disciplines and stakeholders;
- multiple feed back loops and opportunities to shift course in the light of onsite learning;
- a mirroring of the scientific method in terms of testing hypothesis and refining theories;
- a democratic decision-making process for working across different interest groups, disciplines, regions and resource issues.

Too often the potential for on-going self-improvement from the benefits of adaptive management are foregone because:

- balancing in the name of expediency and convenience outweighs ecological gains;
- options are restricted to what is politically acceptable rather than what is scientifically defensible;
- science is reduced to 'risk-management' and 'scenario modelling';
- monitoring is poorly resourced and there is no capacity on the part of the managers to accommodate critiques and shift direction;
- bureaucracies, by their very nature, are neither nimble nor flexible. They are not 'adaptive managers'.

Unfortunately too often, 'adaptive management' has become

- an excuse for delaying hard decisions;
- a rationale for muddling through;
- a way of not challenging vested interests.

We ask:

- Have the principles and practices of adaptive management (addressed in the burgeoning literature of the matter) been fully explored? See bibliography
- Has adaptive management ever been attempted and/or succeeded at the scale of the MDB?
- What consideration has been given to experience in other countries where adaptive management has been tried? Can we learn from those practices?
- To what is management adapting? Do we have a clear and open analysis of the problem?
- Who should do adaptive management? Can those who were the architects of policies that allowed the system to be degraded now oversee its restoration to health?
- Is the institutional context within which adaptive management is being advocated conducive to the practice?
- Is the quintessentially social nature of adaptive management reflected in the DP?
- Will there be consistency across the whole basin re the adaptive management processes?

There are indications that the form of adaptive management being proposed in the DP is constrained. For instance, we are told (DP p. 6) 'MER also underpins adaptive management. It does this by:

- providing the information necessary for informed and timely prioritisation and decision-making on watering events;
- establishing the analytical structure for assessing the appropriateness and relevance of outcomes and targets; and
- enabling the review, refinement and improvement of outcomes and targets.'

To whom are these points addressed? The public, bureaucrats, scientists, engineers, irrigators or all of the above? How will the process of 'providing, establishing and enabling' be resourced? What are the consequences if the process falls short of goals? To whom are the managers accountable? How will the social and cultural dimensions be 'managed'? Adaptive management is inescapably a socio-political practice as well as a technical-scientific undertaking. There is no recognition of that aspect or how it might be managed in the DP.

The DP is still in flux. It is adapting to the volatile context in which it is being proposed and managed. The DP states: 'The proposed Basin Plan is the subject of further work and consultation by the MDBA. As changes are made, the approach to MER on the use of Commonwealth environmental water will also need to adapt' (p. 8). How will these changes be accomplished? How will all potential stakeholders be informed? How will the adaptation of the Plan be resourced? How will the outcomes be benchmarking and consistent across the basin?

*Climate change*, a core concept that will influence the MER and how river systems function in the future is largely ignored in this Discussion Paper. While reference is made to a 'comprehensive long-term framework' (DP p5) the paper makes no reference to how a significant driver of change will influence the MER.

Furthermore the Discussion Paper is informed by the Murray-Darling Basin Plan, the Conservation Council of SA and the RLCAG have serious reservations on which climate scenarios were used to inform the plan. The original guide to the proposed Basin Plan uses the median global climate scenario. This scenario does not have the highest probability of occurring. Assuming a medium level of global warming, this amounts to about 10% reduction in annual run off by 2030 (CSIRO 2008).

In its 2007 Technical Report *Climate Change in Australia*, CSIRO stresses (more than once) that:

The upper limits of warming presented here... are conservative. There is a significant possibility that warming may occur in excess of these values, particularly later in the century, although the likelihood of this occurrence is impossible to estimate at this stage. It is worth noting that observed carbon dioxide concentrations, global mean temperatures and sea level rise have been tracking the upper end of the IPCC scenario range from 1990 to 2006 (Rahmstorf et al. 2007). Although this 17-year period is very short, it suggests that the mid and low projections may be less likely than the high projections, with significant implications for risk management.

As Conservation Council SA noted in its 2009 *Blueprint for a Sustainable Future* (p 44), 'It is entirely possible that the impact of climate change has been underestimated. Without any guarantees of action towards a lower emission future we need to examine the consequences of 2.5–6.5°C of warming by 2100. These scenarios would see the flow of the Murray Darling Basin reduced between 16–48% with devastating consequences.'

The original guide undersells the impact climate change will have on the MDB. It considers only a 10% reduction in runoff associated with Climate Change and allocates merely 3% as an appropriate allowance. Furthermore, the 3% allowance assumes no reduction in groundwater as a result of climate change.

Considering all this, the decision to allow for a water reduction of only 3% for climate change seems to err towards a level of optimism that concerns us. The precautionary principle needs to be evoked, therefore modelling and plans should reflect or at the very least include the scenario that reflects current patterns. When considering the effects of climate change on the Murray-Darling Basin, we recommend that the A1F1 SRES scenario developed by the IPCC is used as this is the global trend to which we are tracking.

### *1 (b) Resourcing of the MER process*

The DP (p. 12) tells us: 'Information harnessed through all the levels of monitoring will enable the adaptive management of Commonwealth environmental water holdings. ... [Figure 3](#) outlines adaptive management processes at the operational, intervention and program levels. [Figure 4](#) summarises monitoring and evaluation activities at each of these levels.'

Again how is all this to be resourced? To what standards is the MER to be held and what if those goals are not met? Where is the feedback loop in the 'refinement' process

### *1 (c) Modelling.*

The *Water Act 2007* speaks of 'integrated water resource planning'. We are concerned that the MER disconnects rather than integrates.

The model as presented in [Figure 3](#) (DP p.12) is more about controlling the process than allowing multiple inputs from diverse sources. The social dimension of adaptive management has been erased.

The note on [Figure 3](#) (DP p. 12) states: 'Adaptive management is based on a conceptual understanding at interlinked levels. Conceptual models will inform the selection of ecological targets and indicators. Indicators will be monitored through intervention monitoring, with hydrological indicators at the operational level as well.'

The focus on a limited number of icon sites will not necessarily provide a sound basis for evaluation. We need to see sites as connected, conceptually and ecologically, and account for this on how the system is managed as a whole. Focusing on icon or indicator sites, does not take into account how all ecosystems and habitats in the system are linked.

## **2. Specific Questions**

*Question 1: Do you agree with the proposed principles for guiding the implementation of MER for use of Commonwealth environmental water?*

- *meet the requirements of the Water Act and the Basin Plan*

The RLCAG and Conservation Council of SA are concerned that conceptual framework underlying the guiding principles is inadequate (see above 1 (a)). The schema presented in the DP notes information and reporting obligations but with what consequences if the goals are not met?

- *be sustainable and cost effective*

The DP speaks of being ‘resilient to future changes’ but it is inadequate with respect to climate change. Where ‘reasonable cost’ is stated part of ‘adaptive management’, we ask: What takes precedence and according to what criteria?

- *be complementary and based on a shared responsibility*

How is this to be accomplished when there is limited provision for participation from a range of disciplines? Who is considered to be responsible in this context and what are the consequences of not sharing? How is sharing to be resourced, monitored and assessed? Under a shared responsibility who will be accountable. Furthermore, what checks and balances will be put in place to ensure the consistency of the MER across the entire basin. There is a high potential for efforts and methodology to be uneven across river systems and states.

- *be scientifically robust and comparable*

Who articulates and assesses the science? Where is the comparative dimension?

The DP states the MER aligns with the approach of the Basin Plan in that it will be in accordance with the ‘scientifically robust and comparable’. As it stands we understand that the revised Guide to the Basin Plan will not be subject to peer review and will fail to meet this principle, one of the main principles, guiding the MER process for CEWH. In order for the best possible outcomes for the MER the plans, must be ‘scientifically robust and comparable’ from the top down, this including the Murray-Darling Basin Plan.

As such we agree with the proposed, but wonder how it can be enforced when the processes informing the program and decision making do not adhere to the same principles.

- *be founded on program logic*

The logic of which program? We suggest the over-riding logic should be that of connectivity.

*Question 2: Does the proposed program logic reflect your expectations of the Commonwealth environmental watering program?*

The RLCAG and Conservation Council of SA expect a watering program that will be capable of addressing needs of the MDB and is based on principles of connectivity, not a piecemeal approach. We are not convinced that the adaptive management approach upon which this program relies has been sufficiently thought through and are deeply concerned that unless it is properly resourced, it will become an excuse for muddling from one crisis to the next as well as creating an administrative burden.

There is a schedule for review but what are the consequences of failing to meet the goals of the program and by whom would that be assessed? This is crucial for adaptive management to be an effective tool to deal with change. If there are no consequences there is the risk that already stressed ecosystems and habitats will not have the resilience to respond in a changing climate.

*Question 3: Do you have a view on the proposed approach to delivery of MER? Do you have any views on how this approach could be implemented, including suggestions on where indicator sites may be located?*

The RLCAG and Conservation Council SA has a view and, having reviewed the flow diagrams (DP p. 12) is concerned that the 'refinement' segment of the process, which is where learning should/could occur, has not been developed. How would it be resourced? How and by whom would it be assessed? According to what criteria?

The RLCAG and Conservation Council of SA are also concerned with the focus on 'indicator sites' rather than a modeling of connectivity. We draw attention to the recent research findings from Professor Richard Kingsford re the Macquarie Marshes. We would ask: Is the MER framework based on credible, solid, peer-reviewed data or generalised models based on extrapolation from a limited number of studies at sites which may or may not be representative of or applicable to the whole system.

*Question 4: Do you agree with the proposed approach for working with other government agencies, the science community and local groups? Do you have a view on possible alternative arrangements that would contribute to the MER framework?*

The RLCAG and Conservation Council SA would note that working relations across agencies, groups and experts have been significantly flawed. We have made numerous suggestions, offered informed critiques and modeled modes of engagement that allow sharing of information and decisions across difference and amongst various interest groups but the mode and quality of 'consultation' is yet to reflect any serious engagement with our comments and critiques. Many reasonable, knowledgeable and thoughtful citizens have been alienated, disrespected, bullied and treated with contempt. We are asked to make comments on documents according to impossible schedules. We are mainly volunteers and have limited resources. We find the agencies to whom we address our comments to be unresponsive.

If there were to be a serious intent of actively engaging the scientific community, local communities and agencies, one might begin with the insight that these are not necessarily separate entities. It is contemptuous to dumb down presentations to local groups while denying their expert members access to scientific materials. The standard sought should be based on openness and transparency, properly resourced and capable of accommodating critique and not merely dismissing those who query or disagree as 'negative'. Access to documents should be provided in a timely fashion.

The RLCAG has consistently offered to assist in developing more respectful and productive modes of working across difference. The resistance to these offers of shared expertise is of stoical proportions.

*Question 5: Are there activities that you or your organisation does, or plans to do, that could contribute to MER activities for the use of Commonwealth environmental water?*

The RLCAG and Conservation Council SA will continue to provide informed comments of MER activities and to advocate for fully resourced MER activities.

*Question 6: Does the proposed reporting meet your needs? Can you suggest other appropriate means for reporting on the outcomes of Commonwealth environmental watering actions?*

The intent of the reporting is worthy, what we are questioning is the capacity to deliver under the regime outlined in the DP. RLCAG volunteers have undertaken extensive monitoring in the local community but it is treated as second class data. We are concerned that the monitoring data across the Basin is uneven and inadequate for the task.

There needs to be consistent methodology applied across the basin in order for the results to be meaningful. This also brings up the questions of who will monitor the quality of data and ensure the correct methodology is used?

### **3. Future Actions**

The DP is out of date as it states the approach will align with the Guide to the BP (DP p. 9).

The 27 May 2011 Communiqué of the meeting of the Murray-Darling Basin Water Ministers in Adelaide stated: 'In implementing the Basin Plan through an adaptive management approach, ministers agreed that each jurisdiction has a role to play in supporting local communities to contribute their experience, knowledge and innovative local practices.'

Although we welcome an approach that facilitates collaborative problem solving, we urge that the DP explore comparative case studies (see Resource Bibliography).

Some of the most interesting critiques of adaptive management come from the UK and North America. The abstract of 'Adaptive management: Promises and pitfalls' states:

Proponents of the scientific adaptive management approach argue that it increases knowledge acquisition rates, enhances information flow among policy actors, and provides opportunities for creating shared understandings. However, evidence from efforts to implement the approach in New Brunswick, British Columbia, Canada, and the Columbia River Basin indicates that these promises have not been met. The data show that scientific adaptive management relies excessively on the use of linear systems models, discounts nonscientific forms of knowledge, and pays inadequate attention to policy processes that promote the development of shared understandings among diverse stakeholders. To effective, new adaptive management efforts will need to incorporate knowledge from multiple sources, make use of multiple systems models, and support new forms of cooperation among stakeholders. (Rebecca McLain and Robert G. Lee 1996)

We ask: Who is adapting to whom and in what contexts? Adaptive management has the capacity to transform the way we live with our 'natural resources' but there must be a deep commitment to change, not just rhetorical nods to 'stakeholder engagement'.

We would suggest that 'adaptive management' as a principle and a practice is in need of refinement with respect to the MDB. It is not simply a matter of scaling up existing exercises. There must be an over-riding Plan that sets the targets. It must be resourced, consistent across the basin and there must be consequences for failing.

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## **Appendix One: Selected RLCAG Submissions**

The health of the Lakes Alexandrina and Albert, the Coorong and Murray Mouth is central to achieving the objects of the *Water Act 2007* and in a number of submissions re EPBC matters RLCAG has argued that maintaining connectivity is central to achieving a healthy, resilient river system.

- Guidelines for an EIS for the proposed Pomanda weir (EPBC 2007/3484)
- Draft EIS for the proposed Pomanda weir
- Referral for the Causeway to the Pomanda Island (EPBC 2008/4674)
- Independent Review of the EPBC Act
- Referral on Opening the Barrages (EPBC 2008/4618)
- Guidelines for EIS re Opening the Barrages
- Referral for Emergency response for the crisis management of Acid Sulfate Soils in the Goolwa Channel, Finniss River and Currency Creek, South Australia (2009/4833)
- Referral for the Goolwa Channel Water Level Management Project, EPBC 2009/5277
- Guidelines for the EIS re Goolwa Channel Water Level Management Project 2009/5277
- Request for reconsideration of decision under Section 78A EPBC Act 1999 re Temporary Flow Regulators in the Goolwa Channel and tributaries, SA (EPBC 2009/4833)
- Request for reconsideration of particular manner decision - Goolwa Channel regulators (EPBC 2009/4833)
- Senate Committee: Inquiry, Water (Crisis Powers and Floodwater Diversion) Bill 2010
- The Guide to the Murray-Darling Basin Draft Plan
- The Windsor Inquiry
- The Water Act