



Submission on Lake Eyre Basin Intergovernmental Agreement

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1. Expertise and qualifications

I am the Director of the Centre for Ecosystem Science (CES), UNSW Sydney, established in 2009. I have worked for 37 years working as a river scientist in government and university sectors. Much of my work, with my colleagues, has focused on rivers and wetlands of the Murray-Darling Basin and Lake Eyre Basin. My research has been supported by the Australian Research Council, all governments of Australia, including the Australian Government (various environment agencies, Murray-Darling Basin Authority), and non-government organisations (e.g. Birdlife Australia).

All of my research has supported instruments of government, in implementation of policies and management of Australian Rivers. I also have an established track record in the research and management of river ecosystems and their biodiversity, both within and outside protected areas. My publications predominantly focus on the ecology, management and policy of rivers and wetlands. These include co-authorship of 141 peer reviewed publications, 26 book chapters, five books and 95 technical publications and reports. I have a long history of completing research and research and technical projects for governments in relation to river and wetland management, particularly focused in the Murray-Darling Basin. I advise State and Australian Governments on matters related to the policy and management of rivers.

I have assisted state and Commonwealth governments through the following advisory bodies in the Lake Eyre Basin: Cooper Creek Catchment Committee, Community Advisory Committee, Scientific Advisory Panel for the Lake Eyre Basin and the Queensland Government Advisory Panel on the management of Wild Rivers.

2. Approach to this submission

This submission focuses on some broad general comments and recommendations, followed by responses on the draft recommendations provided from the second review of the Lake Eyre Basin Agreement (Noetic Group, 2017).

3. General comments

Successes

i. Current Ecological Health of the Lake Eyre Basin

There is widespread evidence that the ecological health of the Lake Eyre Basin rivers is in good condition, reflected in the recent assessment of basin condition (Lake Eyre Basin Ministerial Forum, 2017) and other assessments (Pisanu *et al.*, 2015). In addition, long-

term surveys of more than 50 waterbird species over three decades indicate that the waterbird community is highly variable but with few trends (Kingsford *et al.*, 2017a), apart from migratory shorebirds (Lake Eyre Basin Ministerial Forum, 2017). Fish communities are also in good condition (Arthington and Balcombe, 2017; Kerezszy, 2017; Lake Eyre Basin Ministerial Forum, 2017). This contrasts other river systems in Australia. In addition, there are relatively few major development pressures (Crothers, 2017; Kingsford, 2017) although increasing particularly in relation to mining (Mudd, 2017). To this extent, the Lake Eyre Basin Agreement has been highly successful. This was also reflected in the winning of the National River Prize in 2014 and the international river prize in 2015, the first time that these prizes have been awarded to river protection, rather than river rehabilitation.

Recommendation: It is important that threats continue to be managed and mitigated and indicators measured to track change, including threats and impacts.

ii. Connecting the communities

The Lake Eyre Basin Agreement has also been very successful in connecting community, government and scientific communities. There is now a strong network established across the basin, particularly strengthened increased Aboriginal involvement. This community has been integral to protecting the river and ensuring that major deleterious developments are identified and adequately discussed and resisted if necessary (Kingsford *et al.*, 2017b).

Recommendation: The networks of communities in the Lake Eyre Basin are its biggest strength and the continuation of the formal committees and their advice to governments needs to continue.

iii. Protection of river flows and their variability

The Lake Eyre Basin Agreement has helped protect the river flows of the Lake Eyre Basin Rivers making it one of the great desert river systems in the world that remains largely unregulated (Kingsford *et al.*, 2014). Successful mitigation of threats by communities and governments continue to provide important policy and community support for the protection of river flows (Tan, 2017).

Recommendation: Current government processes that protect the rivers of the Lake Eyre Basin as detailed in the agreement need to continue and be strengthened.

iv. Strategic Adaptive Management

All governments have supported a strategic adaptive management approach to the Lake Eyre Basin Rivers. This needs continued support, providing the essential governance and management framework for improving management and identifying essential indicators to track changes in ecosystem condition.

Recommendation: Governments to continue to explicitly support in terms of policy and funding the development of the strategic adaptive management approach to the rivers of the Lake Eyre Basin.

Challenges

i. Cross-border investment and management

Despite the importance of the Lake Eyre Basin Agreement, most funding mechanisms are primarily delivered through state-based regional bodies. There are few incentives for programs that have cross-border emphasis. Further the regional management bodies inevitably focus primarily on management issues within their areas. Importantly the Lake Eyre Basin Partnership, formed from the three regional management bodies, is providing a focus for cross-border work through their funding from the Lake Eyre Basin River prizes.

Recommendation: It would be helpful to have increase the importance of managing cross-border issues through different funding mechanisms.

ii. Water and other development legislation in the States and Territory

There is currently relatively little linking between state legislation and the Lake Eyre Basin Agreement, such as in Queensland (Crothers, 2017; Tan, 2017). This means that State policies for development can have relatively little regard for interstate obligations, including the Lake Eyre Basin Agreement. For example the Western Rivers Advisory Panel formed by the Queensland Government in 2012 did not have any South Australian representative, even though the resultant decisions made by the Queensland would be critical for river flows (Crothers, 2017; Kingsford, 2017). There is a need for water legislation and policy in the states to more adequately reflect obligations under the Lake Eyre Basin Agreement.

Recommendation: Ensure that legislation and policy in the States and Territory adequately consider obligations to the Lake Eyre Basin Agreement. This may take the form of changes in legislation.

iii. Inadequate reporting of threats, impacts and development pressures

There is a need for increased transparency in reporting by State and the Territory Governments of potentially deleterious threats and their subsequent impacts on the rivers of the Lake Eyre Basin. For example, there are few publications which adequately identify the potential and actual development of water resources in Queensland (Crothers, 2017). It is also important to identify the potential exploration and development impacts of the oil and gas industry on the floodplains and rivers of the Lake Eyre Basin (Kingsford, 2017; Mudd, 2017). The spillage of the Lady Annie Mine represents another challenge with insufficient reporting of the extent of the spillage or the long-term impact and likely rehabilitation costs

(Taylor and Little, 2013; Mudd, 2017).

Recommendation: Improve transparent reporting of exploration and development pressures and impacts on rivers throughout the Lake Eyre Basin.

iii. **Draft Recommendations in the 2nd Review of the Lake Eyre Basin Agreement**

- i. Develop a monitoring strategy based on input from the Scientific Advisory Panel that targets prioritised areas and indicators and incorporates the vision for the Lake Eyre Basin.

Response: Agree – this is an important initiative with indicators focused on strategic adaptive management.

- ii. Scientific Advisory Panel and Community Advisory Committee to develop Key Performance Indicators which will allow Agreement processes to act proactively to threats and pressures.

Response: Agree – it is not clear how performance indicators would apply to the advisory roles of the two committees but they could advise on approaches to threats and pressures.

- iii. Investigate an amendment to the Agreement or a specific Regulation outlining more specific financial arrangements, including budgets and reporting required to operate the governance structures identified within the Agreement.

Response: Agree – changes should apply to three year periods allowing for more efficient investment in programs and structures.

- iv. Develop a new long-term action plan for the Lake Eyre Basin to address cross-border impacts.

Response: Agree – this is an important initiative. It is particularly important to identify threats (see above) and potential impacts. These need to include the potential effects of small impacts which cumulatively can cause large effects.

- v. Develop a review and reporting process for the efficacy of Policies and Strategies adopted by the Ministerial Forum.

- vi. **Response:** Agree – this also depends on the level of specificity in policies and strategies. Policies and strategies need to be more clearly defined.

- vii. Use Key Performance Indicators developed as per Recommendation iii to act as triggers for management actions as part of a risk based precautionary approach.

viii. **Response:** Agree – this needs to be within the agreed of a strategic adaptive management approach so that management actions can be at different scale, relevant to particular threats.

ix. Explore the feasibility and potential benefits of using future scenarios to assess potential threats, pressures and opportunities.

Response: Agree – this is an important initiative which could be increasingly valuable but is highly dependent on understanding the nature, scale and distribution of threats across the Lake Eyre Basin. It is also important to categorise and specify what is meant by these terms.

x. Investigate the connections between the Lake Eyre Basin surface water and the Great Artesian Basin groundwater to assess whether there is need for joint management in the future.

Response: This may be possible but it is highly dependent on understanding the technical aspects and how these relate to pressures and sustainability. Management of surface flows can vary considerably from ground water. Also, there may be cross-overs to other river basins through coverage of Great Artesian Basin, outside the Lake Eyre Basin. This includes the Murray-Darling Basin and Gulf of Carpentaria Basin.

xi. Investigate the options of amending the Agreement to include outlining the operation of the Scientific Advisory Panel and the Community Advisory Committee, or developing a Regulation to the Agreement to this effect.

Response: It is not clear to me what this means.

xii. Create a sub-committee derived from the Scientific Advisory Panel and Community Advisory Committee to advise on any climate change impacts.

Response: Disagree – it is not clear to me why climate change should be treated any differently to a range of other potentially more dangerous threats (e.g. water resource development, mining development, invasive species).

xiii. Assess current and future water demands across the Basin from development, agriculture and other industry.

Response: Agree – but at the same time there should be an assessment of the costs and benefits of such developments, learning from other river systems.

xiv. Assess whether current boundaries of the Lake Eyre Basin Intergovernmental Agreement are still suitable for management of the water resources of the Lake Eyre Basin, and if changes are made, whether new parties should be invited to join the

Agreement such as New South Wales.

Response: Agree – the boundaries should include all catchments in the Lake Eyre Basin, including those to the west and southeast (NSW).

- xv. Using the Lake Eyre Vision and Strategic Adaptive Management Framework, investigate utility of developing a strategic planning framework to encompass a coordinated basin wide approach for management of the Basin.

Response: Agree – this is an important initiative with all regional bodies progressing with development of this approach using some of the prize money from the winnings of the National and International River Prizes.

- xvi. Revise the roles and responsibilities of the Community Advisory Committee and Scientific Advisory Panel to reflect the role they would take developing Key Performance Indicators and whole-of-Basin management.

Response: Agree – this seems like a good recommendation but it does not seem clear to me what this means and the implications for the work of these committees. More clarity is needed here.

- xvii. Expand amendments to Agreement or Regulations to the Agreement to incorporate clearer accountability frameworks and decision making processes.

Response: Agree but as long as this does not introduce too many processes that hamper decision-making.

- xviii. Increase the frequency of the analysis informed by monitoring programs (such as the Lake Eyre Basin Rivers Assessment) based on advice from the Scientific Advisory Panel.

Response: Agree – there is opportunity for improved analysis but it would benefit from sufficient funding, including collaboration with groups outside of government (e.g. university researchers)

- xix. Maintain a 10 year review cycle of the Intergovernmental Agreement.

Response: Agree.

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