INSTITUTE FOR Water Futures

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MAINTAINING ECOLOGICAL CHARACTER OF RAMSAR WETLANDS HAS BEEN MARGINALISED UNDER THE MURRAY-DARLING BASIN PLAN

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KEY MESSAGES

The constitutional mandate for water reforms in the Murray-Darling Basin is based largely on implementation of Australia's obligations under the Ramsar Convention (treaty) on Wetlands. A central objective of the Basin Plan is to return irrigation water to the environment and restore rivers, wetlands and their biodiversity. We examined whether a key Ramsar Convention test of "maintaining the ecological character" of Ramsar wetlands has been applied under the Basin Plan. In this research, we found:

1. A pattern of complex and convoluted arrangements for planning and delivery of environmental water to Ramsar wetlands. These are often inconsistent and lacking in detail, and demonstrate poor co-ordination on roles and responsibilities;
2. A lack of transparency and accountability on how Ramsar commitments are considered and implemented by each jurisdiction. E.g. The NSW water sharing and water resource plans covering the Macquarie Marshes Ramsar site do not refer to the ecological character requirements.
3. Ramsar site management plans, Ramsar Information Sheets, Ecological Character Descriptions and other Ramsar wetland management documents are often many years out-of-date;
4. Consideration of the ecological character of Ramsar wetlands has been marginalised by governments when managing environmental water, despite statutory requirements to maintain these sites.

We find that the water management plans in the Basin need to be streamlined and refocused on maintaining the ecological character of key wetlands, and that an annual report annual report on the state of the Basin's wetlands is needed to monitor progress.

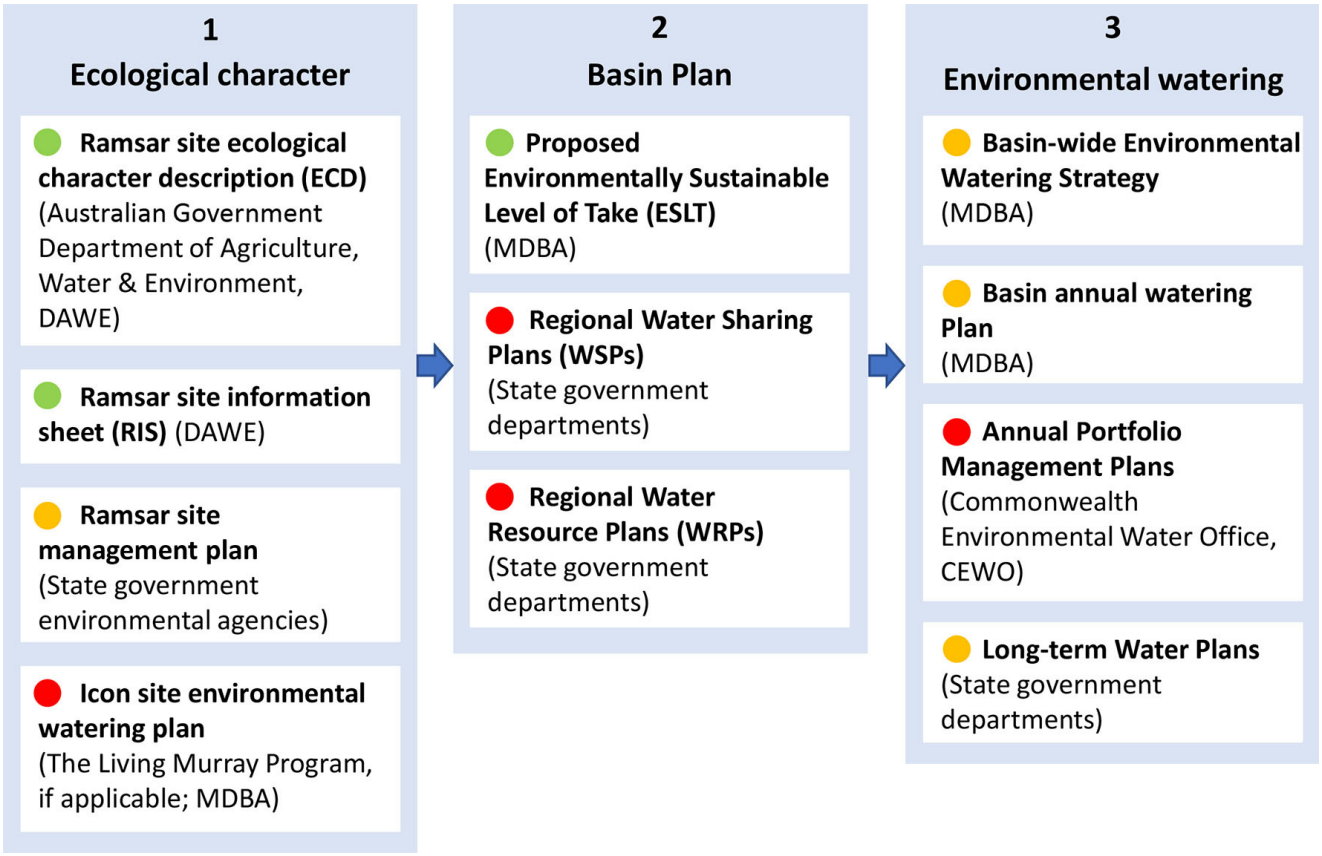

Figure 1. A framework for the assessment of documents on policy and management for the planning and implementation of environmental watering to maintain ecological character of Ramsar wetlands in the Murray–Darling Basin. Traffic lights scores (green, high compliance = 3; amber, medium = 2; red, low = 1). Agencies responsible for production of each document are in brackets.

CONTEXT

The conservation of wetlands and their biodiversity has become increasingly challenging due to multiple stressors, including diversions of water for consumptive use, climate change-exacerbated drought, and land-use change and development. The Ramsar Convention is an international agreement to enable conservation and wise use of these ecosystems. A central objective is the maintenance of the 'ecological character' of internationally important wetlands. Australia is a signatory to the Ramsar Convention on Wetlands (1971), which obliges the Australian Government to commit to sustainable, wise use of all wetlands through the maintenance of their ecological character. The Water Act (2007) and the Basin Plan (2012) gain constitutional legitimacy from international environmental treaties, including the Ramsar Convention. The Act and Plan were established to ensure rivers and wetlands and their biodiversity are maintained by restoring water diversions to sustainable levels.

There are 16 Ramsar wetlands in the Murray–Darling Basin of which 12 are in-scope for managed environmental water provided by the Commonwealth and States. There has been no assessment of the policy efficacy of environmental watering of Ramsar wetlands under the Basin Plan.

Ramsar site	Scale of governance			
	Ecological character (international scale)	Basin Plan (Basin scale)	Environmental watering (Catchment or site scale)	Mean total score
Riverland	6.6	6.6	4.9	6.0
Gunbower Forest	3.2	6.6	3.2	4.3
NSW Central Murray Forests	3.2	0.9	1.5	1.9
Macquarie Marshes	10	0.9	3.2	4.7
Narran Lakes	5.5	0.9	3.2	3.2
Gwydir Wetlands	3.2	0.9	3.2	2.4
Mean total score	5.3	2.8	3.2	3.7

Table 1: Summary scores, based on the traffic lights ranking system of compliance with planning and implementation of environmental watering in relation to the maintenance of ecological character of six Ramsar wetlands in the Murray–Darling Basin. Scores are based on the decimal fraction of the maximum possible score for each combination of component and Ramsar site and then scaled from 1–10.

CONTEXT (CONT'D)

We selected six Ramsar wetlands: three in the northern Basin (Macquarie Marshes, Narran Lakes and Gwydir Wetlands) and three in the south (Riverland, Gunbower and NSW Central Murray Forests).

We assessed 52 State and Federal government documents as important for policy and management of environmental flows for the six wetlands. We used a 'traffic lights' system **(Figure 1)** to assess compliance with the requirement to maintain ecological character.

Our policy assessment framework covers three scales of governance, from ecological character (representing the international scale and the Ramsar Convention) to Basin Plan (representing the basin scale) to environmental watering (representing the site or catchment scale). These scales cover different jurisdictions and government agencies, involving multiple policies, plans and strategies **(Figure 1)**.

WHY THIS IS IMPORTANT

The Basin Plan is a $AU 13 billion public policy initiative, central to long-term national water reform. Its legislated objectives are to maintain wetlands, rivers and their biodiversity including the 16 Ramsar wetlands as past of Australia's international environmental treaty obligations. Australians deserve to know whether this substantial public program can deliver the intended environmental benefits.

KEY FINDINGS

The summary compliance scores for each wetland and scale of governance show the requirement to maintain ecological character is not reflected in documents relating to policy, management of wetlands and environmental watering **(Table 1)**. The total compliance scores for ecological character (i.e. at the international scale) were markedly higher than those for Basin-scale and site scale (which were almost the same).

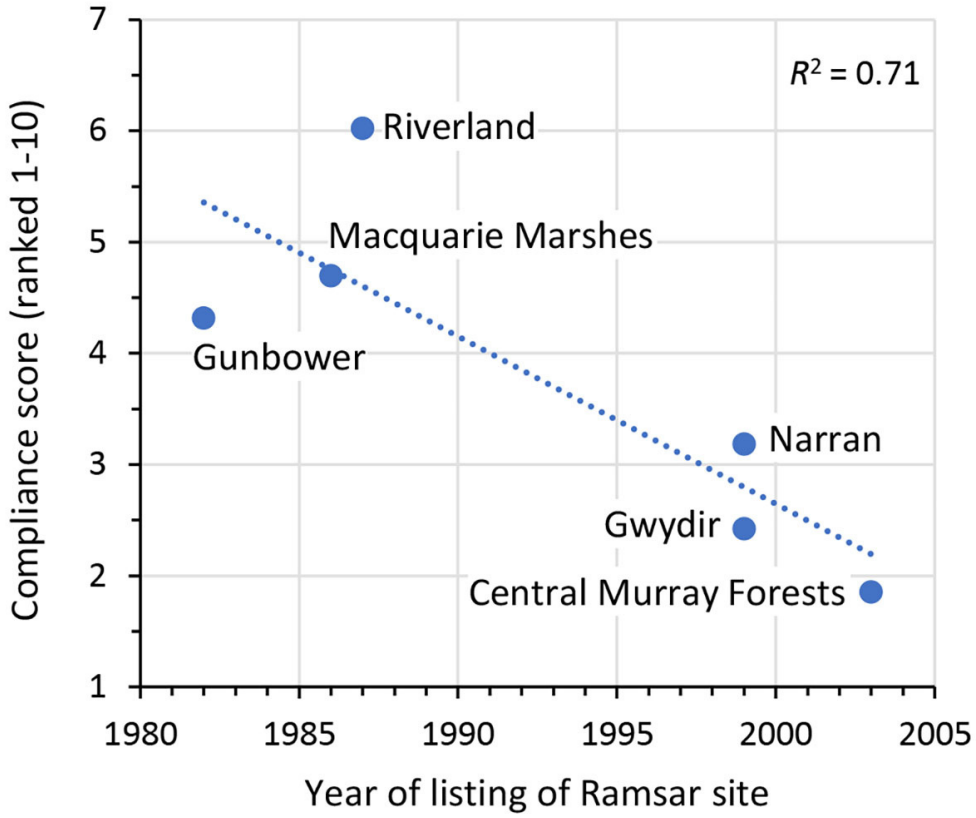

Figure 2: Relationship between mean total compliance score for each Ramsar wetland and its year of listing, with the line of best fit and coefficient of determination.

The Australian Government and its agencies are responsible for policies and plans relating to ecological character. The Basin Plan and environmental watering at site scale are joint responsibilities of the Australian and Basin State governments.

For compliance scores, Riverland, Macquarie Marshes and Gunbower ranked highest, in that order, and Gwydir Wetlands and NSW Central Murray Forests ranked lowest **(Table 1)**.

It appeared there was no pattern between sites in the southern or northern Basin or different jurisdictions, although compliance scores were markedly lower for sites in NSW than the other States. However, we found a statistically significant negative correlation between the mean total compliance score and the date of listing of the Ramsar site, as seen in **Figure 2**. This finding indicates the older the Ramsar site designation, the more likely it is that documentation on its water management will reflect its Ramsar status.

KEY LESSONS

Environmental watering is essential for the conservation of Ramsar wetlands and their biodiversity. Yet policy and management of environmental water is complex, opaque, and often not related to flow regimes required to maintain the ecological character of these wetlands. Documentation of site characteristics is often many years out of date. There appears to be poor coordination between government agencies in determining roles and responsibilities, and for ensuring consistency of policy and management approaches across all scales of governance.

Ecological character should be included in all aspects of wetland governance and reporting. A major updating of documentation relating to Ramsar wetlands is needed. Additionally, the hierarchical, top-down framework on policy and management of environmental watering could be simplified by improving coordination among government agencies and integrating and streamlining management plans in an adaptive way. Finally, an annual, independent assessment of the state of the Basin's wetlands is urgently required to ensure transparent and accountable use of environmental water.

The Institute for Water Futures works collaboratively with stakeholders in government, community and business to understand change and enable action in long term water research, policy and management.

ABOUT THE AUTHORS

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MORE INFORMATION

This brief is based on the following publication:

Kirsch, E., Colloff, M.J. and Pittock, J. (2021, published online) Lacking character? A policy analysis of environmental watering of Ramsar wetlands in the Murray–Darling Basin, Australia. Marine and Freshwater Research. https://doi.org/10.1071/MF21036

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