

5 CONCLUSIONS

The present study represents the first overarching inventory and assessment of Australia's 65 declared Ramsar wetlands. This study represents an important step in gaining an appreciation of the management status and pressures of Australia's Ramsar wetlands at a national scale.

At an international scale, Australia contains approximately 85% of the total number of Ramsar sites in the Oceania Ramsar region and 3.8% of sites worldwide. The total area of Australian Ramsar estate represents approximately 5% of the total worldwide extent of Ramsar listed wetlands. To a large degree, the relatively small area of Australia's Ramsar estate at an international level is likely to reflect its relatively dry climatic conditions. However, it is also likely that there are many wetlands that would fulfil Ramsar listing criteria and could be included in Australia's Ramsar estate.

The 64 declared Ramsar wetland sites included in the analysis (excluding site 65 nominated during the course of the study) encompass a broad range of wetland types, ranging from coral and terrigenous reefs, to estuaries, inland lakes and rivers. Several wetland types appear to be poorly represented in Australia's Ramsar estate, most notably karst and cave systems, forested peatlands, tundra wetlands, freshwater springs, coastal freshwater lagoons, coral reefs, arid zone wetlands, and artificial wetland types. To some extent, the poor representation of these wetland types is likely to reflect their rarity (or lack of existence) within Australia and its external territories, or possibly an inadequate knowledge of wetland types both within and outside Ramsar sites. For other more commonly occurring wetland types that are poorly represented such as coral reefs, there are alternative management regimes to Ramsar in place such as marine protected areas that are achieving equivalent conservation outcomes.

There are several wetland mapping and inventory programs underway or completed, which will improve our knowledge of wetland types and may result in additional sites in Ramsar estate. These programs are typically undertaken at the state level, and to date there is no national scale assessment of the extent and distribution of wetlands. There is a need to increase the knowledge of the spatial extent and distribution of different wetland types/classes within each site in order for a meaningful analysis. Development and integration of survey programmes is required, with priority of increasing wetland areas that are under represented in Australia.

Land tenure profoundly influences the types of activities that may be undertaken within Ramsar sites. While most Ramsar sites are situated on public lands and conservation reserves, many sites have a private land component. While there is a basic understanding of tenure within individual sites (as outlined in relevant management plans, Ramsar Information Sheets etc.), there is currently no systematic, national description of land tenure within Australia's Ramsar estate. This presents difficulties in understanding land tenure arrangements within Ramsar sites at a national level and for comparability between sites. This gap limits opportunities for identifying and prioritising potential land stewardship and associated management arrangements at the national scale.

The Ramsar Snapshot study found that the known or likely threats to wetlands differed between marine/coastal and inland wetlands. Wetlands containing both inland and marine components reported a similar suite of threats as inland wetlands, together with a small number of other threats more typically recorded in marine wetlands (most notably being fishing). In all wetland types, the

nominated key threats appeared to operate both within the wetland itself, or occurred as a result of changes outside (upstream in inland wetlands) of the wetland. This presents difficulties from a management perspective. While a protected area or an effective management plan may be able to manage threats occurring within the wetland, such measures may be largely ineffective for threats whose origins are outside the wetland.

Currently there is no systematic way to characterise threats and impacts or to compare the magnitude of impacts of threats among sites. There is a clear need to develop a systematic method of describing, comparing and reporting impact magnitude among wetlands in future rolling reviews of Australia's Ramsar wetland estate.

There are several types of documents that outline management arrangements for individual sites, namely wetland Management Plans, Ramsar Information Sheets, Ecological Character Descriptions and spatial data describing Ramsar wetland boundaries. Key findings include:

- 19% of wetland Management Plans were found to conform to all Australian Ramsar management principles outlined in *EPBC Regulations* and could be classified as an accredited Ramsar Management Plan.
- DEW held up-to-date Ramsar Information Sheets for 54% of Ramsar sites, with the remainder of Ramsar Information Sheets held by DEW being outdated (older than 6 years). Overall DEW held more up-to-date Ramsar Information Sheets for Australia and its external territories than Wetlands International.
- 12% of Ramsar sites had a finalised Ecological Character Description, with 20% and 15% of sites having Ecological Character Descriptions in draft and in preparation stages respectively. Over half the Ramsar sites did not have an Ecological Character Description at time of reporting.
- 97% of sites managers had access to an electronically formatted map. All maps developed for sites within Western Australia, Tasmania, Northern Territory (Cwth), Queensland (Cwth) and the Australian Capital Territory conformed to a minimum data standard outlined in the questionnaire. Further investigations in this area are required to determine whether suitable maps and a consistent approach are being used throughout Australia. DEW held the most recent electronic boundary data for all sites within Western Australia and the Commonwealth/External Territories and for some sites in New South Wales, South Australia and Tasmania, however did not have most recent electronic boundary data in any of the Queensland or Victorian sites.

Water use and management was identified as a key pressure for most Ramsar wetland sites containing 'inland' wetland types. However, the knowledge base regarding water requirements of Ramsar wetlands was not well known. Based on qualitative rankings by site managers, water requirements were considered to be 'well known' at 11 sites, 'partly known' for another 15 sites, and water requirements were largely unknown for most of the remaining sites. These results indicate that there is a fundamental knowledge gap in the key environmental driver of most (inland) Australian Ramsar sites.

Results of the DEW/DAFF financial database interrogation found that Ramsar funding is mainly through State Government funding programmes, followed by NHT Region Funding and other Australian Government funding. Most states or territories receive NHT, NAP and Australian Government funding, with sites within Tasmania, South Australia, Victoria, Queensland and New South Wales receiving additional funding outside Government initiatives.

While it is possible to assess past funding to Ramsar wetland management programs in a semi-quantitative sense, it is important to note that the DEW/DAFF database has not been developed to allow quantification of total expenditure. Whilst the current database has been constructed in a way that could enable information specific to Ramsar sites to be retrieved, it is not easily extracted or identifiable from past data entered in the database. A significant investment would need to be made to review and re-enter information regarding all past funding programmes, to allow for funding to be separated into various relevant categories of Ramsar expenditure. The historic data, for the purposes of the Ramsar Snapshot interrogation, is therefore considered incomplete. The DEW/DAFF database has recently been modified which should ensure detailed recording of current and future Ramsar expenditure.

A rolling review process would address some of the information gaps identified above, allow the receipt, storage and retrieval of information/documents supplied to DEW and facilitate regular reviews of the status of these documents. It is recommended that the rolling review should be undertaken at regular intervals to track and record the status and management of Ramsar-listed wetlands in Australia on a regular basis.

In setting up such a review process, there is a need to articulate the objectives to the State and Territory agencies that will be involved in the process, and ensure approval from these agencies in regard to their resourcing (time and financial) to ensure the best possible information is fed into the rolling review.

Implementation of a rolling review process would provide a more accurate national Snapshot of the Australian Ramsar estate that could be maintained over time. With appropriate resources and methodologies in place, the rolling review process would be able to provide valuable information and analysis about the Ramsar estate across both spatial and temporal scales. This review would assist in addressing reporting requirements for the Ramsar Convention as well as provide up-to-date information across the national estate for site managers operating at various levels of Government.