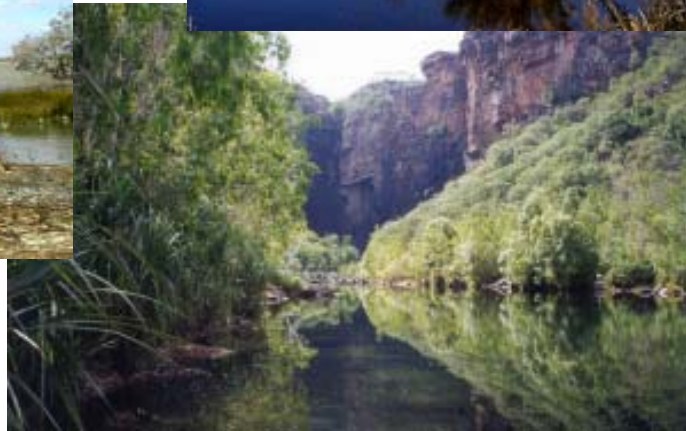


Integrating wetlands into NRM regional planning and implementation processes

INFORMATION PACKAGE FOR FACILITATORS



Natural Heritage Trust

Helping Communities Helping Australia
An Australian Government Initiative



Australian Government

Department of the Environment and Heritage

Introduction

Dear Facilitator

Congratulations on your recent appointment. The Inland Waters Section in the Australian Government Department of the Environment and Heritage (DEH) is responsible for developing coordinated national policy responses for the conservation of Australia's wetlands, especially freshwater ecosystems. We undertake this task in close cooperation with the Coastal Policy Section of the Department, other Australian Government agencies, State/Territory Government agencies, non-government organisations and community stakeholders.

As you are aware, the Australian Government has specific responsibilities for protecting and managing the biodiversity of important freshwater ecosystems and species dependent on those ecosystems, under international treaties such as the Ramsar Convention on Wetlands, and national environment legislation (*Environment Protection and Biodiversity Conservation Act 1999*).

These responsibilities can only be effectively implemented, however, through collaboration with the natural resource management bodies working on-ground in the regions. In this regard, the Government will use its *National Action Plan for Salinity and Water Quality* (NAP) and *Natural Heritage Trust* (NHT) investments to fund regional projects and activities that address priority salinity, water quality and biodiversity issues, including protection and restoration of significant freshwater, marine and estuarine ecosystems.

To assist regional natural resource management bodies, we are identifying national policy and priorities for wetlands that can be used to guide regional planning processes and the design and delivery of regional activities and projects.

As a starting point, we have developed a short information package that can be used to familiarise yourself and other regional and local stakeholders with some of the national imperatives for freshwater and wetland conservation arising from our obligations under the Ramsar Convention.

The package provides information about national wetland priorities, integration of wetlands in regional planning, availability of wetland data for regional planning, useful websites, networks and contacts. We have also included a Resource CD, which contains some useful resources, including policy documents, databases, reports and case studies of how particular regional communities have sought to balance freshwater conservation imperatives with sustainable production and other uses.

For each State/Territory—a copy of the Australian Wetlands Database, with information on Ramsar sites and Directory wetlands in that jurisdiction, has been included. Site descriptions in the database are as supplied to DEH by the States and Territories.

There are also maps (in PDF format) for all NHT and NAP regions showing the location of all Ramsar and Directory wetlands. Ramsar site boundary spatial data are supplied by the relevant jurisdictions and have a high level of accuracy. The location of Directory wetlands, with the exception of nearly all Queensland sites, is derived from a continental coverage produced at 1:250 000 scale, so should be considered indicative rather than definitive. Most regions have multiple maps to indicate the location of wetlands.

We would appreciate feedback in due course on the usefulness of the package to allow for updating and possibly wider distribution. Please do not hesitate to contact our Wetlands Team on 02 6274 1111 or

wetlandsmail@deh.gov.au with any queries and suggestions and we look forward to a productive working relationship in this exciting period of sustainable NRM program delivery.

A handwritten signature in black ink, appearing to be 'Theo Hooy', written in a cursive style.

Theo Hooy
A/g Assistant Secretary
Coasts and Water Branch
Land, Water and Coasts Division

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Cover Photographs

Left: Coongie Lakes Ramsar site, South Australia

Top Right: Flood Plain Lower Ringarooma River Ramsar site, Tasmania

Bottom Right: Kakadu National Park, Northern Territory

How to use this package

If you are interested in general information on wetlands and Ramsar, refer to **Section 1 and 2**.

If you want to know how to include wetlands and Ramsar issues into a regional plan or investment strategy, refer to **Section 3 and 4**, and **Appendix 4**.



Left: Wilgara wetland, Macquarie Marshes Ramsar site, New South Wales



Top: River Red Gum, NSW Central Murray State Forest Ramsar site, New South Wales

If you want to find more information on wetlands in your region, refer to **Section 5, Appendix 7** and the **Resource CD**.

If you want to contact people on wetlands issues, refer to **Appendix 2, 5 and 6** for contact details and websites. Contact details and more websites are also included within the **Resource CD**.



Micalong Swamp Flora Reserve,
New South Wales

1. What is the Ramsar Convention?

The Convention on Wetlands (Ramsar, Iran, 1971), also known as the Ramsar Convention, is an international environment treaty. It provides a framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.

The Convention seeks to protect all wetlands including those recognised for their international importance and those of local and regional significance managed by private landholders and/or local community groups.

Wetlands as an interface between land and water are often the focus of land use activity and development. As a result, they are vulnerable to destruction and modification, degradation by pollution, changes to water flow and quality and invasive species. Wetlands are also vulnerable because their ecological values and functions are often poorly understood and appreciated. Loss or degradation of wetlands can lead to flooding, eutrophication, soil salinity and acidity, that are costly to remedy and reverse in both biological and economic terms.

The Convention seeks to promote the important functions that wetlands play in the landscape - supporting high species diversity and performing essential ecological services and hydrological functions including flood mitigation, groundwater recharge, shoreline stabilisation, sediment and nutrient retention and water purification.

The Convention also recognises that wetlands are a valuable economic resource for communities that need to be properly managed to maintain livelihoods. Ramsar's "wise use" concept allows for sustainable use of wetland resources and examples of wise use include low key recreation and tourism, sustainable grazing and harvesting activities.

Australia was one of the first nations to become a Contracting Party to the Ramsar Convention, and had the world's first Wetland of International Importance (Ramsar site), the Cobourg Peninsula Aboriginal Land and Wildlife Sanctuary, Northern Territory.

Australia currently has 64 Wetlands of International Importance covering a total area of approximately 7.3 million hectares (Refer to Figure 1 and Table 1).

As a Contracting Party to the Convention, Australia has obligations to:

- promote the wise or sustainable use of all wetlands within Australia;
- designate Australian wetlands to the List of Wetlands of International Importance; and
- establish appropriate management planning frameworks for listed sites to ensure that the ecological character of sites is maintained or enhanced.

These obligations are further discussed in Appendix 1. The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is one example of how Australia is implementing its obligations under the Ramsar Convention. The EPBC Act provides statutory protection for Wetlands of International

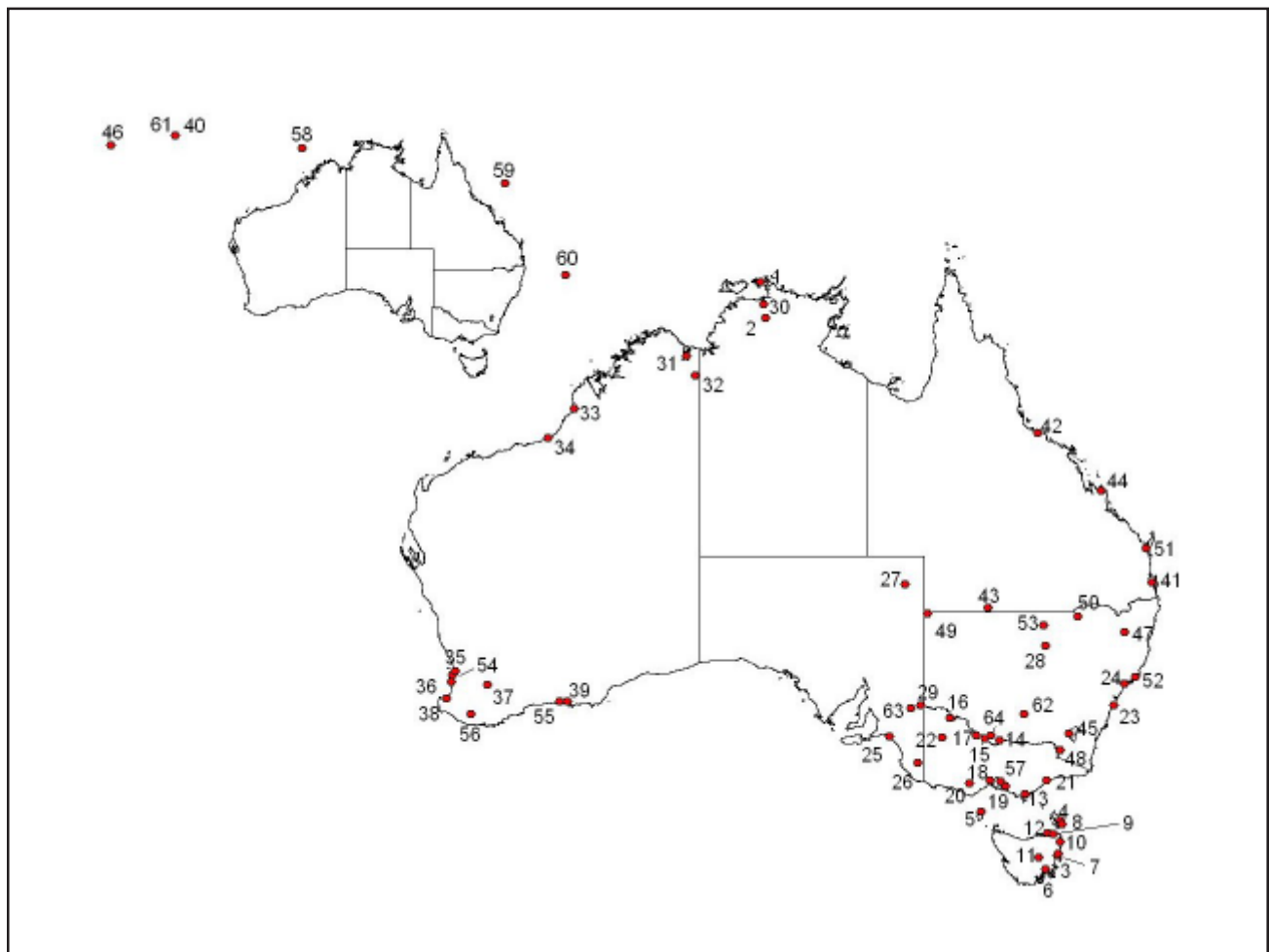
Importance listed under the Convention and an improved planning framework to manage important wetland sites and conserve listed threatened and migratory species dependent on wetlands.

Further information

Appendix 1 - Summary of key obligations under the Ramsar Convention

The Ramsar Convention website (www.ramsar.org) contains detailed information about the global operation and key documents of the Convention

Figure 1. Ramsar sites in Australia (as at November 2003)



Top: Paperbark swamp, Kakadu National Park, Northern Territory
Right: Lake Clifton, Peel-Yalgorup System Ramsar site, Western Australia



Table 1. Ramsar sites in Australia (in chronological order of listing)

| | Area (approx. hectares) | | Area (approx. hectares) |
|------------------------------------------------------------------------------|-------------------------|------------------------------------------------------------------|-------------------------|
| 1. Cobourg Peninsula Aboriginal Land and Wildlife Sanctuary | 220,700 | 33. Roebuck Bay | 55,000 |
| 2. Kakadu National Park (Stage 1) including wetlands components of Stage III | 683,000 | 34. Eighty-mile Beach | 125,000 |
| 3. Moulting Lagoon | 4,507 | 35. Forrestdale and Thomsons Lakes | 754 |
| 4. Logan Lagoon | 2,257 | 36. Peel-Yalgorup System | 26,530 |
| 5. Lavinia | 7,034 | 37. Lake Toolibin | 493 |
| 6. Pitt Water-Orielton Lagoon | 3,334 | 38. Vasse-Wonnerup System | 1,115 |
| 7. Apsley Marshes | 880 | 39. Lake Warden System | 2,300 |
| 8. East Coast Cape Barren Island Lagoons | 4,473 | 40. Hosnie's Springs (Christmas Island) | 0.3 |
| 9. Flood Plain Lower Ringarooma River | 3,519 | 41. Moreton Bay | 113,314 |
| 10. Jocks Lagoon | 19 | 42. Bowling Green Bay | 35,500 |
| 11. Interlaken | 517 | 43. Currawinya Lakes (Currawinya National Park) | 151,300 |
| 12. Little Waterhouse Lake | 56 | 44. Shoalwater and Corio Bays | 239,100 |
| 13. Corner Inlet | 67,186 | 45. Ginini Flats Wetland Complex | 343 |
| 14. Barmah Forest | 28,515 | 46. Pulu Keeling National Park (North Keeling Island) | 122 |
| 15. Gunbower Forest | 19,931 | 47. Little Llangothlin Nature Reserve | 258 |
| 16. Hattah-Kulkyne Lakes | 955 | 48. Blue Lake | 320 |
| 17. Kerang Wetlands | 9,419 | 49. Lake Pinaroo (Fort Grey Basin) | 800 |
| 18. Port Phillip Bay (Western Shoreline) and Bellarine Peninsula | 22,897 | 50. Gwydir Wetlands | 823 |
| 19. Western Port | 59,297 | 51. Great Sandy Strait | 93,160 |
| 20. Western District Lakes | 32,898 | 52. Myall Lakes | 44,612 |
| 21. Gippsland Lakes | 60,015 | 53. Narran Lake Nature Reserve | 5,531 |
| 22. Lake Albacutya | 5,731 | 54. Becher Point Wetlands | 677 |
| 23. Towra Point Nature Reserve | 387 | 55. Lake Gore | 4,017 |
| 24. Hunter Estuary Wetlands | 2,971 | 56. Muir-Byenup System | 10,631 |
| 25. Coorong and Lakes Alexandrina and Albert | 140,500 | 57. Edithvale-Seafood Wetlands | 261 |
| 26. Bool and Hacks Lagoons | 3,200 | 58. Ashmore Reef National Nature Reserve | 58,300 |
| 27. Coongie Lakes | 1,980,000 | 59. Coral Sea Reserves (Coringa-Herald and Lihou Reefs and Cays) | 1,729,200 |
| 28. The Macquarie Marshes | 18,726 | 60. Elizabeth and Middleton Reefs Marine National Nature Reserve | 188,000 |
| 29. "Riverland" | 30,600 | 61. The Dales, Christmas Island | 57 |
| 30. Kakadu National Park (Stage II) | 692,940 | 62. Fivebough and Tuckerbil Swamps | 689 |
| 31. Ord River Floodplain | 141,453 | 63. Banrock Station Wetland Complex | 1,375 |
| 32. Lakes Argyle and Kununurra | 150,000 | 64. NSW Central Murray State Forests | 84,028 |
| | | Total Area | 7,371,527.3 ha |

2. How is the Ramsar Convention implemented in Australia?

The Australian Government works cooperatively with State and Territory governments, regional and non-government organisations, local government, land managers and communities to implement Australia's international obligations under the Ramsar Convention. The roles and responsibilities for implementing Ramsar are outlined in Appendix 2. A number of national networks have also been established to coordinate action and communication.

The Bilateral Agreements between the Australian Government and each State and Territory to deliver the extension of the Natural Heritage Trust contain statewide (and in some cases region specific) wetland conservation outcomes. The agreed wetland deliverables are set out in each Bilateral but generally include:

- preparing and implementing a policy or strategy on the conservation and management of wetlands;
- preparation and implementation of management plans for listed Ramsar sites consistent with EPBC Act Australian Ramsar Management Principles (ARMs);
- identification of priority wetlands of international importance to be designated as Ramsar sites;
- identification of priority (wetland) sites of international importance for migratory waterbirds for inclusion in the East Asian - Australasian Shorebird Site Network;
- contributing to updating site data and new site additions to *A Directory of Important Wetlands in Australia*, particularly undertaking wetland inventory in priority regions; and
- progressing improved environmental flow regimes to wetland ecosystems.

As many of these wetland outcomes will be delivered through regional natural resource management planning and implementation processes, the Australian Government will be working closely with the States and Territories and regional natural resource management organisations to ensure that national priorities for wetlands are addressed in regional plans and investment strategies.

Wetland resource condition targets have also been identified as part of the *National Framework for Natural Resource Management Standards and Targets*, (covering wetland extent and condition indicators) to assist monitoring and evaluation of NRM processes.

Further information

Appendix 2 - Roles and responsibilities for Ramsar implementation

Australian Government and State/Territory Bilateral Agreements www.nht.gov.au/nht2/bilaterals

National Framework for Natural Resource Management Standard and Targets

www.deh.gov.au/nrm/monitoring/standards/index.html

Resource Condition indicators - www.deh.gov.au/nrm/monitoring/indicators/index.html

National Objectives and Targets for Biodiversity Conservation 2001-2005

www.deh.gov.au/biodiversity/publications/objectives/index.html

3. What are the national wetland priorities relevant to NRM?

To assist regional bodies developing regional natural resource management plans, Table 2 identifies national wetland issues and actions that might be implemented at the regional level, as appropriate.

Table 2. Wetland issues and priority actions for implementation at the regional level

| Issue | Priority Actions |
|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Protecting and managing internationally and nationally important wetlands in the region | <ul style="list-style-type: none"> ▪ <i>Prepare and/or implement management plans for all listed Ramsar sites in the region, including establishment of monitoring regimes</i> ▪ <i>Assess and monitor the condition of nationally important wetlands in the region *</i> ▪ <i>Implement integrated natural resource and/or catchment management approaches to balance competing demands for water and other wetland resources and secure appropriate environmental flows to priority wetlands</i> ▪ <i>Identify priority wetlands requiring rehabilitation focusing on wetlands associated with major river systems and areas of high biodiversity value</i> ▪ <i>Implement strategies to manage threats to priority wetlands such as pest species</i> ▪ <i>Identify significant wetlands in the region that may be suitable for Ramsar listing</i> ▪ <i>Provide technical support and investigate incentive measures for private landholders managing priority wetlands</i> <p><i>* Refer also to National Framework for NRM standards and targets</i></p> |
| Improving scientific and technical knowledge about wetlands in the region | <ul style="list-style-type: none"> ▪ <i>Undertake or update inventory and assessment of regional wetland resources</i> ▪ <i>Identify and map new nationally important wetlands in the region for inclusion in A Directory of Important Wetlands in Australia</i> ▪ <i>Update existing site data in the Directory for nationally important wetlands in the region</i> ▪ <i>Consult with indigenous people and private landholders when compiling inventory</i> |
| Engaging the regional community and raising awareness of wetland values and functions | <ul style="list-style-type: none"> ▪ <i>Develop communication, education and public awareness activities appropriate to the NRM issues in the region and key target groups</i> ▪ <i>Stage regional events for World Wetlands Day (2 February)</i> ▪ <i>Engage local communities in wetland monitoring and assessment</i> ▪ <i>Support indigenous and community participation in wetland management committees</i> ▪ <i>Encourage indigenous people to undertake wetland conservation projects in liaison with Indigenous Land Management Facilitators (ILMF)</i> |

The priority actions fall within the scope of the 10 activities that have been defined for Natural Heritage Trust investment, in particular:

- i protecting and restoring the habitat of threatened species, threatened ecological communities and migratory birds;
- iii protecting and restoring significant freshwater, marine and estuarine ecosystems;
- iv preventing or controlling the introduction and spread of feral animals, aquatic pests, weeds and other biological threats to biodiversity;

- vi improving the condition of natural resources that underpins the sustainability and productivity of resource based industries;
- vii securing access to natural resources for sustainable productive use; and
- ix providing land-holders, community groups and other natural resource managers with understanding and skills to contribute to biodiversity conservation and sustainable natural resource management.

Further information

Framework for Extension of the Natural Heritage Trust www.nht.gov.au



Left: Yellow Water, Kakadu National Park, Northern Territory
Top: Moulting Lagoon Ramsar site, Tasmania
Bottom: Coorong, part of Coorong and Lakes Alexandrina and Albert Ramsar site, South Australia



4. Taking the next step - applying national wetland priorities in NRM

The process of developing regional plans will be a collaborative exercise involving State/Territory/Australian Government agencies, local governments, regional industries, communities, Indigenous people, academic/scientific and conservation interests.

Wetlands are a valuable regional natural resource and should be considered in an integrated way. This means decisions about future use of land and water resources in the catchment need to be evaluated in terms of their impact on biodiversity values and ecosystem service functions of wetlands, as well as social and economic considerations.

To assist this evaluation, regional bodies will require sound information about the location and values of wetlands in the region. Information about Wetlands of International Importance (Ramsar wetlands) and nationally important wetlands (ie those listed in *A Directory of Important Wetlands in Australia*) is available from a number of sources, including electronic databases and management documents.

The following commentary considers how regional bodies might approach the protection of *Ramsar sites* and *nationally important wetlands* in regional planning and implementation processes. It is by no means exhaustive and is pitched in general terms. It is recognised that approaches will vary across regions and jurisdictions to reflect regional issues, the condition of regional wetland resources and threats. A Wetlands NRM Checklist has been developed for reference in regional planning (Appendix 4).

4.1 Ramsar sites

There are currently 64 Ramsar sites in Australia (see Figure 1 and Table 1). While many Ramsar sites are located within the protected areas estate managed by State and Territory conservation agencies, a number of Ramsar sites are on public land managed by statutory agencies or local government, on private land or have multiple site managers, particularly coastal wetlands. Regardless of tenure, regional organisations will need to work closely with the responsible site manager, to ensure that Ramsar sites are protected from adverse impacts and managed to maintain their ecological character.

A management plan is required for each Ramsar site and site manager/s should be in the process of preparing or implementing a management plan for the wetland. Regional NRM plans will need to integrate catchment wide actions and responses identified in Ramsar management plans. Where there is no management plan or the plan requires review, regions should be identifying this as a priority activity.

The Australian Government has developed national standards for managing Ramsar sites that address planning process and content matters (the Australian Ramsar Management Principles of the EPBC Act - Appendix 3). Ramsar site management plans should:

- describe wetland values and uses;
- achieve a balance between protection of the wetland and its sustainable use;
- address future impacts through a whole of catchment management approach;

- identify management mechanisms including existing arrangements (pollution controls, weed management etc);
- establish comprehensive monitoring frameworks; and
- engage the community in future management.

Many Ramsar sites are also internationally important sites for migratory shorebirds, requiring specific management action to maintain waterbird habitat values.

Issues likely to arise for the region in relation to Ramsar wetlands include, water sharing decisions about the timing, quality and quantity of water required by a Ramsar wetland, management of fire and pest species, minimising surface and ground water pollution in the catchment and so on. Regional wetland targets should also encompass specific outcomes for Ramsar wetlands (such as provision of flows) and improvement in the condition of Ramsar wetlands.

In many instances, water sharing decisions will involve some trade offs between users of water resources within the catchment. Providing environmental flows will not necessarily equate to a loss for consumptive uses depending on the timing, quality and quantity of water required for the environment. Wetlands, particularly floodplain systems, are naturally subject to cycles of flooding and drying. An integrated management approach can ensure environmental water is used to best effect in the entire catchment and possibly achieve savings through adaptive management. Regional bodies need sound scientific and local knowledge about ecological requirements of the Ramsar wetlands (and other water dependent ecosystems) to effectively implement adaptive management strategies.

These management scenarios will need to be worked through with responsible site managers, other stakeholders and the State and Territory agencies that have primary responsibility for water management. The environmental, social and economic impacts of water sharing decisions need to be evaluated as part of the planning process.

Regional bodies will be expected to monitor land use and development activities likely to have a significant impact on Ramsar wetlands and that may require Australian Government environmental assessment and approval under the EPBC Act. Adverse impacts could include pollution, introduction of weeds and feral species, and wetland disturbance. The assessment process allows for public consultation and input and regional bodies, as NRM managers, will be expected to be key stakeholders in this process.

Regional bodies will also be expected to take account of Ramsar sites outside of their regions where land use activities (such as water extraction) upstream may impact on Ramsar wetlands downstream.

Regions should also be aware that many nationally important wetlands may meet the criteria for international importance and be put forward for listing under the Ramsar Convention in the future. Some jurisdictions (Western Australia and the Australian Government) have undertaken strategic assessments to identify wetlands for potential Ramsar listing. Regions can contact their State and Territory wetlands representative (Appendix 5) to identify whether there are any potential Ramsar sites in their regions.

Further information

Australian Wetlands Database www.deh.gov.au/water/wetlands/database/index.html

Appendix 3 - Australian Ramsar Management Principles (of the EPBC Act)

Appendix 5 - State and Territory wetlands contacts (Wetlands and Waterbirds Taskforce)

Appendix 7 - Useful State and Territory websites

4.2 Nationally important wetlands

The values and management requirements of nationally important wetlands should also be recognised in the regional planning process. *A Directory of Important Wetlands in Australia (Directory)* contains wetland site information for 860 nationally important wetlands. Site data includes location, description of wetland type and value, threats and wetland condition.

Information on the condition and management requirements of nationally important wetlands is generally not as comprehensive as for Ramsar sites and regions will need to work closely with site owners/managers to confirm existing condition, threats, and necessary management action such as rehabilitation. As a large proportion of nationally important wetlands are also located on private land, any proposals for updating site information, management action or intervention will require close consultation with the landholder/s.

The *Australian Terrestrial Biodiversity Assessment 2002*, carried out an assessment of the condition and trend of nationally important wetlands and threatening processes using the site data within the *Directory* and other sources. While not able to quantify wetland condition across all regions (due to data gaps), the assessment does identify some regions where wetland condition is of concern including the rangelands and the south-west of Western Australia and most of New South Wales. Wetlands in these regions require significant management intervention to reverse degradation particularly where affected by salinity and it is noted that dryland salinity is a threat for wetlands in southern Australia.

Regions should be aware therefore that while the *Directory* is a primary information source for nationally important wetlands, some bioregions are yet to be comprehensively surveyed to identify important wetland values and there are data gaps within surveyed bioregions. Most jurisdictions do however have ongoing programs to improve our wetland knowledge and inventory (see Section 5.1 and 5.2). These projects will identify new sites for listing in the *Directory*.

Regional organisations can contribute to this data gathering process through regional wetland and/or biodiversity surveys and updating existing wetland site information in the *Directory*. Information about the format for data assessment and collection is available from State and Territory wetland representatives (Appendix 5). Regions should pursue wetland inventory as a priority activity where there is insufficient national and regional wetland data to inform NRM planning, establish regional targets and monitoring processes. Regional inventory programs also present the opportunity to identify the full suite of wetland values, including wetlands of regional and local significance that can be addressed in management activities at the sub-catchment level.

Regions will be required to set wetland resource condition targets at the regional scale consistent with the *National Framework for Natural Resource Management Standards and Targets*. Wetland inventory data and mapping is required to establish the baseline for wetland ecosystem extent. Wetland monitoring programs will need to be designed to assess wetland condition at important sites over time.

The *Australian Terrestrial Biodiversity Assessment 2002* may be able to provide regional organisations with a basic regional wetland dataset to develop inventory projects. Approximately 4 700 wetlands of regional significance were identified across Australia and a short description and assessment of the condition ('fair condition or degraded') of each wetland has been recorded in the Australian Natural Resources Atlas.

There are also a number of other references and sources of wetland data about important wetlands including databases and management and recovery plans, covering:

- World Heritage properties where listing recognises the values of the wetland;
- sites on the Register of the National Estate where listing recognises the values of the wetland;
- sites reserved or otherwise protected under Commonwealth and/or State/Territory legislation that recognise wetland values;
- listed ecological communities under the EPBC Act where listing recognises the values of the wetland; and
- sites that are important habitat for significant native species and communities, including regionally, State and nationally rare or threatened species, marine and migratory species.

Further information

Australian Wetlands Database www.deh.gov.au/water/wetlands/database/index.html

Email Enquiries: wetlandsmail@deh.gov.au

Appendix 5 - State and Territory wetland contacts (Wetlands and Waterbirds Taskforce)

Appendix 7 - Useful websites

Australian Terrestrial Biodiversity Assessment 2002 - Wetlands and Riparian zones

http://audit.deh.gov.au/ANRA/vegetation/docs/biodiversity/bio_assess_contents.cfm

4.3 Assigning wetland priorities and facilitating awareness

As a general consideration, actions and strategies designed to deliver improved management outcomes at Ramsar listed wetlands and nationally important wetlands should be a high priority for regional bodies. This is particularly the case in those regions where nationally important wetlands were identified as either in 'fair condition or degraded' in the *Australian Terrestrial Biodiversity Assessment 2002*.

Complementary management strategies will also need to be developed for protecting wetlands of regional significance to avoid incremental loss and maintain their important biodiversity values and ecosystem service functions.

For those regions where wetland information is patchy, wetland inventory and assessment programs will be a high priority to identify wetland values, condition and threats. Wetlands that are assessed as internationally or nationally important but subject to threats may require immediate management intervention.

Importantly, investment in wetland management and sustainable use needs to be supported by activities that raise community awareness of wetland values and functions, engage local communities in wetland observation and management, and provide support and incentives to maintain wetland values and reward

private stewardship. As a large proportion of nationally and regionally important wetlands are located on private lands, capacity building activities for private landholders should be a high priority investment to facilitate future wetland management action.

Regions are particularly encouraged to stage community awareness raising events in the catchment to celebrate World Wetlands Day on 2 February every year. World Wetlands Day marks the date the Ramsar Convention was signed in 1971, and provides an excellent opportunity to recognise and acknowledge the wetland conservation efforts of individuals and local communities in the region and build community interest and awareness of wetlands.



Left: Moulting Lagoon
Ramsar site, Tasmania

Bottom: Yellow Water,
Kakadu National Park,
Northern Territory



5. Useful resources for regional NRM planning

5.1 National wetland data and information

Access to information about wetland location, values, hydrological and ecological processes and resource condition can be obtained via an online electronic database for internationally and nationally important wetlands.

The Australian Wetlands Database (www.deh.gov.au/water/wetlands/database/index.html) contains comprehensive site information for Australia's 64 internationally important wetlands (Ramsar sites) and 860 nationally important wetlands listed in *A Directory of Important Wetlands in Australia*.

The database record for each Ramsar site consists of the Ramsar Information Sheet (RIS) and site map. The RIS is the detailed documentation prepared to support nomination of the wetland to the List of Wetlands of International Importance maintained by the Ramsar Convention Bureau; and is required to be regularly updated by the responsible jurisdiction. The RIS has a useful field listing scientific references and relevant management documents for the site.

A Directory of Important Wetlands in Australia is coordinated by the Department of the Environment and Heritage with input from conservation agencies from all jurisdictions to identify nationally important wetlands. The Third Edition of the *Directory* published in 2001, lists 851 nationally important wetlands. Also included are analyses of the representation of wetland types and criteria for inclusion in the *Directory* and the occurrence of wetlands in relation to biogeographic regions (IBRA) and drainage basins.

The following table (Table 3) shows the number and approximate area of nationally important wetlands in each jurisdiction listed in the third edition of the *Directory*.

Table 3. Nationally Important Wetlands by jurisdiction

| Jurisdiction | No. of Sites in 3rd Edition | Approx. area (ha) of wetlands |
|------------------------------|-----------------------------------------------|--------------------------------------|
| Australian Capital Territory | 13 | 1 257 |
| New South Wales | 178 | 2 334 734 |
| Northern Territory | 33 | 4 033 230 |
| Queensland | 181 | 42 875 159 |
| South Australia | 69 | 4 223 988 |
| Tasmania | 89 | 51 514 |
| Victoria | 159 | 557 888 |
| Western Australia | 120 | 2 583 325 |
| External Territories | 9 | 1 168 427 |
| Total | 851 | 57 829 522 |

The latest *Directory* information, including data of wetlands listed since publication of the third edition, is held in the publicly accessible online database. You can use text forms and/or interactive maps to perform queries of the database. The text of the third edition of *A Directory of Important Wetlands in Australia* is also online at www.deh.gov.au/water/wetlands/database/contents.html

Inventory work for the *Directory* is ongoing in Queensland, Western Australia, South Australia, and the arid zone of the Northern Territory and more information is coming forward from New South Wales from other sources. The Australian Government has also undertaken an inventory of important wetlands in areas that it owns and/or manages which may result in further listings in the *Directory*.

5.2 Other wetland data sources

Some States/Territories are currently undertaking a comprehensive assessment of wetland types and coverage and will be producing digital data sets that could add to a national wetland inventory. Work is ongoing in Western Australia, Queensland, South Australia and the arid zone of the Northern Territory to assess wetlands in under-represented regions.

In Queensland, wetland inventories exist in varying stages of completion for South Eastern Queensland, the western section of Cape York, the Gulf Plains, Brigalow Belt North, and the Desert Uplands bioregions. This work is in addition to that already done for the above *Directory*, which identified 181 sites of national importance.

The ACT has completed an inventory of upland wetlands, largely contained in Namadgi National Park, and conducted a remotely sensed survey of lowland wetlands with ground-truthing of the wetland characteristics as resources permit. The ACT has identified a small number of lowland wetlands (less than 30) which require further ground investigation of their extent, importance and Territory significance.

South Australia (SA) has assessed wetlands on a regional scale. SA can be divided into 17 regions, based on the Interim Biogeographical Regionalisation for Australia (IBRA). In five of these regions, more than 50% of the wetlands have sufficient data collected for inclusion in an inventory. In eleven regions less than 50% of wetlands have been surveyed and in one region no data has been collected. Wetland inventory and assessment surveys have been undertaken on Kangaroo Island, in the Northern Agricultural Districts, Mt Lofty Ranges and the Eyre Peninsula.

Victoria has prepared a geospatial layer at 1:100 000 of their 159 wetlands of national importance. Victoria has also mapped wetlands across the whole State as they occurred at the time of European settlement (predicted) and again in 1994. This information is maintained as wetland layers in the Department of Sustainability and Environment geospatial data library. A geospatial layer showing boundaries of Victoria's Ramsar sites is also maintained.

In Tasmania, the north and east coasts and the major off shore islands have been surveyed and included in an inventory.

In NSW, coastal wetlands have been mapped as part of State Environmental Planning Policy 14 (SEPP 14), and more recently the Sydney Catchment Authority has conducted an inventory of all the wetlands within its jurisdiction. NSW has used satellite imagery to map wetlands (waterbodies) of the Murray-Darling Basin, and extended the work using similar methodology to include the remainder of the State,

The Northern Territory (NT) Government, supported by Wetlands International – Oceania (an NGO), has undertaken wetland inventories in the arid south of the NT and in the Sturt Plateau bio-region. The NT inventory projects have amassed substantial data and imagery from which potential Ramsar sites could be identified.

All wetlands in the Murray-Darling Basin have been mapped. Areas of the Murray-Darling Basin that have been surveyed for wetlands include the length of the Murray River between Lake Hume and the river mouth, the Edward and Wakool Rivers. More than 7 000 wetlands were surveyed in these areas. The Namoi and Gwydir catchments, the Lower Darling and the NSW portion of the Paroo River have also been surveyed for wetlands. Other studies in the basin are currently underway.

State and Territory representatives can be contacted to confirm the status of current wetland inventory projects and availability of data (Appendix 5).

5.3 Wetland technical and communication networks and contacts

Wetlands and Waterbirds Taskforce

The Wetlands and Waterbirds Taskforce is responsible for advising the NRM Ministerial Council and its subsidiary bodies on the implementation of the Ramsar Convention.

The Taskforce consists of wetlands experts from the relevant Australian Government, State and Territory agencies (and New Zealand). Within each State and Territory jurisdiction, the Wetlands and Waterbirds Taskforce representatives guide and report on the implementation of strategies to promote the conservation, repair and ecologically sustainable use of wetlands. The Wetlands and Waterbirds Taskforce members are listed in Appendix 5.

Certain States also have established committees to guide wetland conservation policy and program activities. For example, Queensland, New South Wales and Western Australia also have wetland advisory committees.

Australian Wetlands Information Network (AWIN)

The Australian Wetlands Information Network (AWIN) was formed to guide delivery of wetland communication, education and public awareness activities at national, state and local levels in Australia consistent with the Ramsar Convention's Programme on Communication Education and Public Awareness 2003-2008. A *Wetland Communication, Education and Public Awareness (CEPA) National Action Plan: 2001-2005* has been developed to create a framework for effective and collaborative delivery of CEPA activities.

The Network includes representatives from government agencies, non-government organisations and key education centres across Australia with an interest in wetland education, communication, policy and planning. Members of the Australian Wetland Information Network are listed in Appendix 6.

A website has been developed to provide a national communication focus for CEPA, providing information about wetland news and events and useful website links to wetland resources and organisations (www.wetlandsaustralia.com.au).

Wetland conservation non-government organisations

A number of non-government organisations (NGOs) have specific programs that are delivering policy, scientific and technical support to regional bodies and local communities involved in wetland conservation.

NGOs can assist with a diverse range of activities including wetland assessment and inventory, wetland management planning and wetland rehabilitation and capacity building activities such as skills training, wetland education and awareness raising.

A full list of organisations, their wetland interests, programs and expertise is at www.deh.gov.au/water/wetlands/contacts/ngos/html.



Top and bottom: Apsley Marshes Ramsar site, Tasmania



Appendix 1.

Convention on Wetlands (Ramsar, Iran, 1971)

The Convention on Wetlands, also known as the Ramsar Convention, was signed in 1971, in the Iranian town of Ramsar. The Convention provides a framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.

The Ramsar Convention on Wetlands has adopted a broad definition of a “wetland” covering a wide variety of wetland habitat types including rivers and lakes, coastal lagoons, mangroves seagrass beds and coral reefs but not deep sea.

Definition of a Wetland under the Ramsar Convention

The Ramsar Convention defines wetlands as:

“Areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres.”

In addition, wetlands:

“may incorporate adjacent riparian and coastal zones, islands or bodies of marine water deeper than six metres at low tide lying within the wetlands.”

Contracting Parties have three main obligations under the Ramsar Convention:

1. Designation of Wetlands of International Importance;
2. Ensuring the “wise (sustainable) use” of all wetlands; and
3. International Cooperation.

Designation of Wetlands of International Importance

Contracting Parties are required to identify suitable wetlands within their territory for inclusion on the List of Wetlands of International Importance (the Ramsar List). Sites designated as Wetlands of International Importance have special values, particularly their ecological character. In Australia, some wetlands also have outstanding historical or cultural significance and are particularly important as refuges for native species during drought.

Criteria have been developed to assist the identification of Wetlands of International Importance which relate to the representativeness, rarity or uniqueness of a wetland, or its value for conserving biological diversity (specifically relating to species, ecological communities, waterbirds and fish). A site must meet at least one of these criteria before it can be nominated to the List of Wetlands of International Importance. The Criteria are listed below. Purpose-built wetlands, such as aquaculture ponds, irrigated agricultural land, salt evaporation pans, reservoirs, gravel pits, sewage farms and canals, may also be listed under the Convention, provided they meet one of or more of the nomination criteria.

The intent of the List of Wetlands of International Importance is to maintain an international network of wetlands that are important for the conservation of global biological diversity. This international network of wetland sites has to be built from coherent and comprehensive networks of Wetlands of International Importance established within the territory of each country.

Ramsar wetlands can be designated on any land tenure. While only the Australian Government can designate the site for addition to the List of Wetlands of International Importance, State and Territory Government, Australian Government agencies, regional and non-government organisations and private landholders may initiate a site nomination.

The nomination must include a 'Ramsar Information Sheet' (RIS) that defines the location and ecological character, social and cultural values, land tenure and land use, and threats and conservation measures and a site map showing the proposed boundary.

Details should also be provided about consultation undertaken in preparing the site nomination and management arrangements, existing or proposed for the wetland.

Ramsar Wetland Criteria

For a wetland to be designated as a Wetland of International Importance under the Ramsar Convention, it must satisfy one or more of the following criteria:

1. A wetland should be considered internationally important if it contains a representative, rare or unique example of a natural or near-natural wetland type found within the appropriate biogeographic region.
2. A wetland should be considered internationally important if it supports vulnerable, endangered or critically endangered species or threatened ecological communities.
3. A wetland should be considered internationally important if it supports populations of plant and/or animal species important for maintaining the biological diversity of a particular biogeographic region.
4. A wetland should be considered internationally important if it supports plant and/or animal species at a critical stage in their life cycle, or provides refuge during adverse conditions.
5. A wetland should be considered internationally important if it regularly supports 20 000 or more waterbirds.
6. A wetland should be considered internationally important if it regularly supports one percent of the individuals in a population of one species or subspecies of waterbird.
7. A wetland should be considered internationally important if it supports a significant proportion of indigenous fish subspecies, species or families, life history stages, species interactions and/or populations that are representative of wetland benefits and/or values, and thereby contributes to global biological diversity.

8. A wetland should be considered internationally important if it is an important source of food for fishes, spawning ground, nursery and/or migration path on which fish stocks, either within the wetland or elsewhere, depend.

Wise use of wetlands

Contracting Parties agree to formulate and implement planning to promote the “wise use” of wetlands in their territory. This includes ensuring that individual wetlands are properly managed, particularly sites on the list of Wetlands of International Importance.

The Ramsar Convention promotes the “wise use” of wetlands in recognition that wetland ecosystems are important both for the conservation of biodiversity and for the well being of human communities. The Convention has adopted the following definition of wise use:

“the wise use of wetlands is their sustainable utilisation for the benefit of mankind in a way compatible with the maintenance of the natural properties of the ecosystem.”

Sustainable utilisation is defined as:

“the human use of a wetland so that it may yield the greatest continuous benefit to present generations while maintaining its potential to meet the needs and aspirations of future generations.”

Contracting Parties to the Convention are encouraged to develop management plans for all Ramsar listed sites to ensure the ecological values of the site are maintained and enhanced.

The Convention also promotes an integrated approach to natural resource management that encourages the involvement of all key wetland-related sectors to achieve “wise use”.

Australia is implementing the wise use concept through the development of wetland policies by the Australian Government and in each State and Territory, progress towards the preparation of management plans for all Ramsar sites, ongoing inventory work to identify important wetlands, wetland communication and education activities and work towards integrated catchment approaches to natural resource management under the NAP and NHT for inland/freshwater and coastal wetland ecosystems.

International cooperation

Contracting Parties are encouraged to work together to implement the Convention and especially the management of shared wetland dependent species such as migratory waterbirds. This includes supporting regional initiatives to protect species and establishing partnerships.

Australia has led efforts in the Asia Pacific region to protect migratory waterbirds, established a regional initiative to train wetland managers and undertaken capacity building activities and promoted accession to the Ramsar Convention in the Pacific.

Appendix 2.

Roles and Responsibilities for Implementation of the Ramsar Convention

The Australian Government

The Australian Government provides national leadership on Ramsar through its environment legislation and policies. It coordinates implementation efforts across governments and communities through its environmental programs that build capacity for on-ground wetland conservation and management.

The Government also facilitates key stakeholder networks involved in implementation; coordinates Ramsar national reporting and international liaison as well as managing wetlands in Government ownership (including eight Ramsar sites) and Government activities that impact on wetlands.

The Government has a number of specific legislative, policy and program initiatives to implement its Ramsar responsibilities, including the *Wetlands Policy of the Commonwealth Government of Australia 1997* and its *Implementation Plan*, and the *Environment Protection and Biodiversity Conservation Act 1999*. The EPBC Act provides protection and improved management of Ramsar listed wetlands, listed threatened ecological communities and important wetland habitats for listed migratory waterbird species. The Act provides for an environmental assessment and approval regime for activities that may have a significant impact on Ramsar wetlands, and an improved planning framework to manage important wetland sites and conserve listed wetland dependent species. The Act establishes national standards for the management of Ramsar wetlands, which will assist site managers that are involved in preparing management plans. For further information see: www.deh.gov.au/epbc/index.html

New environment programs, the National Action Plan for Salinity and Water Quality (NAP) and the Natural Heritage Trust extension (NHT2), focusing on regional natural resource management, promote integrated planning and management approaches to wetland conservation, consistent with the Ramsar 'wise use' principle.

The Australian Government will be working closely with the States and Territories, regional organisations and local communities to ensure that national priorities for wetlands are addressed in the NAP and NHT2 NRM planning and implementation processes. This is discussed in further detail below.

National and State/Territory level funding under the NHT will be invested in projects of a national, multi-State or broad scale nature. This may include developing national frameworks and tools for wetland management (such as describing the ecological character of Ramsar sites; and wetland monitoring and assessment protocols) and funding wetland inventory projects at the bio-regional level to contribute to a national wetland inventory.

State and Territory governments

State and Territory governments have primary responsibility for the management of biological and natural resources, including Ramsar sites and all other wetlands within their jurisdiction. States and Territories are expected to develop appropriate policy and legislative frameworks to protect wetlands.

Most States and Territories have developed wetland policies (see Resource CD) as a key means of implementing the Ramsar Convention and use a combination of regulatory and planning frameworks to

protect wetlands and manage impacts. Wetlands are broadly addressed in environment protection, land use planning, and water and vegetation management legislation.

NSW has a State Environmental Planning Policy (SEPP no 14) for coastal wetlands, which requires environmental assessment and development consent for various activities such as clearing, draining and filling.

Some States (NSW, QLD and WA) have established wetland advisory committees to guide the implementation of wetland policies and grant programs to assist the wetland conservation efforts of local communities.

States and Territories are responsible for managing Ramsar sites within the National Park or protected areas estate or on other public or State agency managed lands. Ramsar site managers have a responsibility to maintain the special ecological values of the wetland and to undertake monitoring to detect any changes to the ecological character. State and Territory governments are expected to provide scientific and technical support to managers of Ramsar sites on private land.

State and Territory governments are increasingly using integrated regional/catchment planning approaches to manage vegetation, water, marine and coastal resources consistent with Ramsar's wise use concept, to deliver wetland conservation outcomes.

The States and Territories have agreed to match the Australian Government investment in delivering the Natural Heritage Trust at a regional level, using regional NRM plans as the basis for that investment.

Regional NRM organisations or bodies

Regional NRM organisations will increasingly be key players in the implementation of the Ramsar Convention. Regional bodies will be expected to be familiar with the national policy priorities for wetlands and actively assembling information about the values, condition and management requirements of wetlands in their regions.

NRM plans prepared by regional bodies will be expected to use the available information to identify the priority wetland conservation issues in the region, develop actions to address these issues, and set wetland resource condition and management action targets based on agreed national standards. Regional NRM investment strategies will be expected to demonstrate how the actions for which funding is sought meet the areas of activity for investment established for the Trust.

Local governments, local communities and non-government organisations.

Local governments are involved in a range of activities embracing wetland conservation and natural resource management including assessing and approving development, planning for future land use, managing public land and reserves, monitoring and environmental enforcement activities.

Local planning schemes may contain objectives and provisions designed to protect wetland ecosystems and natural resources. In NSW, local government is also responsible for implementing State planning policy for wetlands, SEPP No 14 - Coastal Wetlands. Local governments also support and provide infrastructure for volunteers and community based groups undertaking local wetland rehabilitation and awareness raising activities.

In recognition of the integral role of local governments in the emerging NRM planning processes, the Council of Australian Governments has agreed to support arrangements that provide for adequate local government representation on regional bodies, involvement in the development of integrated natural resource management regional plans, and raise awareness of regional objectives in local planning.

Non-government organisations (NGOs) are also actively involved in delivering wetland conservation outcomes. Activities include advocacy, technical and scientific support to local communities involved in wetland rehabilitation and wetland communication, education and awareness raising activities. Significant efforts have also been made by NGOs to promote the importance of wetlands in the private sector. As a result, several partnerships have been formed between NGOs and the private sector to support wetland conservation, notably *Revive our Wetlands*, an alliance between BHP-Billiton and Conservation Volunteers Australia (www.reviveourwetlands.net/revive/index.htm), as well as Wetland Care Australia (www.wetlandcare.com.au) and BRL Hardy's Banrock Station project (www.banrockstation.com/home.asp).

Wetlands International, the World Wide Fund for Nature (WWF), IUCN - The World Conservation Union and Birdlife International are partner organisations under the Ramsar Convention and have specific responsibilities to promote the Convention and contribute scientific and technical expertise. The Australian Wetlands Alliance (AWA) is a forum established to represent the key NGOs in Australia involved in wetland conservation and is currently hosted by The Wetlands Centre, Newcastle, NSW (www.wetlands.org.au).

Local communities are engaged through programs such as Envirofund (and Trust programs like Waterwatch) to undertake on-ground projects tackling local wetland conservation management issues. Community groups will also be engaged in a variety of regional projects under the NAP and NHT including monitoring of wetlands and waterways.

Private landholders

In recent years, the Australian Government has encouraged the nomination of wetlands in private ownership through cooperative partnerships with State governments and non-government organisations such as the WWF. Cooperative projects have been undertaken in NSW, Qld, the NT and WA resulting in the designation of a number of Ramsar wetlands including the Wilgara Wetlands, part of the Macquarie Marshes Ramsar site and the Gwydir Wetlands Ramsar site in NSW.

The day-to-day management responsibility for Ramsar sites owned/leased by private landholders lies with the landholder. They commit to the same undertakings as government Ramsar site managers. In each instance a Memorandum of Understanding (MoU) has been entered into by the landholder and relevant partner organisations, both government and non-government. The MoU identifies the commitments made by all signatories to ensure the conservation and wise use of those wetlands. Individual Property Plans have been prepared to manage the wetland values.

Appendix 3.

EPBC Regulation 10.02

Schedule 6 Managing wetlands of international importance

1 General principles

- 1.01 The primary purpose of management of a declared Ramsar wetland must be, in accordance with the Ramsar Convention:
- (a) to describe and maintain the ecological character of the wetland; and
 - (b) to formulate and implement planning that promotes:
 - (i) conservation of the wetland; and
 - (ii) wise and sustainable use of the wetland for the benefit of humanity in a way that is compatible with maintenance of the natural properties of the ecosystem.
- 1.02 Wetland management should provide for public consultation on decisions and actions that may have a significant impact on the wetland.
- 1.03 Wetland management should make special provision, if appropriate, for the involvement of people who:
- (a) have a particular interest in the wetland; and
 - (b) may be affected by the management of the wetland.
- 1.04 Wetland management should provide for continuing community and technical input.

2 Management planning

- 2.01 At least 1 management plan should be prepared for each declared Ramsar wetland.
- 2.02 A management plan for a declared Ramsar wetland should:
- (a) describe its ecological character; and
 - (b) state the characteristics that make it a wetland of international importance under the Ramsar Convention; and
 - (c) state what must be done to maintain its ecological character; and
 - (d) promote its conservation and sustainable use for the benefit of humanity in a way that is compatible with maintenance of the natural properties of the ecosystem; and
 - (e) state mechanisms to deal with the impacts of actions that individually or cumulatively endanger its ecological character, including risks arising from:
 - (i) physical loss, modification or encroachment on the wetland; or
 - (ii) loss of biodiversity; or
 - (iii) pollution and nutrient input; or
 - (iv) changes to water regimes; or
 - (v) utilisation of resources; or
 - (vi) introduction of invasive species; and

- (f) state whether the wetland needs restoration or rehabilitation; and
- (g) if restoration or rehabilitation is needed — explain how the plan provides for restoration or rehabilitation; and
- (h) provide for continuing monitoring and reporting on the state of its ecological character; and
- (i) be based on an integrated catchment management approach; and
- (j) include adequate processes for public consultation on the elements of the plan; and
- (k) be reviewed at intervals of not more than 7 years.

3 Environmental impact assessment and approval

- 3.01 This principle applies to the assessment of an action that is likely to have a significant impact on the ecological character of a Ramsar wetland (whether the action is to occur inside the wetland or not).
- 3.02 Before the action is taken, the likely environmental impact of the action on the wetland's ecological character should be assessed under a statutory environmental impact assessment and approval process.
- 3.03 The assessment process should:
 - (a) identify any part of the ecological character of the wetland that is likely to be affected by the action; and
 - (b) examine how the ecological character of the wetland might be affected; and
 - (c) provide adequate opportunity for public consultation.
- 3.04 An action should not be approved if it would be inconsistent with:
 - (a) maintaining the ecological character of the wetland; or
 - (b) providing for the conservation and sustainable use of the wetland.
- 3.05 Approval of the action should be subject to conditions, if necessary, to ensure that the ecological character of the wetland is maintained.
- 3.06 The action should be monitored by the authority responsible for giving the approval (or another appropriate authority) and, if necessary, enforcement action should be taken to ensure compliance with the conditions.

Appendix 4.

Wetlands checklist for NRM regional planning and implementation

This checklist has been prepared as a guide for integrating priority wetland issues and actions into regional planning and implementation processes.

Describing wetland values and threats and amelioration

- ❑ Identification of important wetland and waterbird values in the region (*For examples of values see Note 1*).
- ❑ Identification of key threats to wetlands and appropriate amelioration actions (*For examples of threats see Note 2*).

Using impact assessment to ensure wise use and inform regional decision making

- ❑ Referral of development proposals that will have a significant impact on wetland and waterbird values to State/Territory/Australian Government EIA and approval processes.
- ❑ Referral of wildlife harvesting etc proposals to Australian Government /State/Territory wildlife permitting and licensing processes.

Taking account of relevant provisions from other planning processes

- ❑ Local planning schemes (eg: conservation land use zones, prescribed buffers around wetlands, wastewater treatment, sediment controls)
- ❑ Water Allocation/Management Plans (eg: mandated environmental flows to important wetlands)
- ❑ Regional Land Use Plans (eg: catchment protection areas, regional conservation and open space networks)
- ❑ National Park/Reserve plans (eg: fire management)
- ❑ Management objectives and actions from:

Ramsar Site Management Plans (eg: *habitat restoration, site and catchment monitoring, fire management, maintenance of flow regimes*)

Threatened Species and Ecological Communities Recovery Plans (eg: *on-ground actions to exclude predators and restore wetland habitat*)

Wildlife Conservation Plans (eg: *protection measures such as limiting noise and recreation disturbance when migratory birds are using important sites*)

Improving regional wetland knowledge and adaptive planning

- ❑ Targeted data collection to address wetland knowledge gaps (eg: *regional wetland inventory, habitat use by migratory waterbirds, determining wetland water requirements, mapping habitat distribution and condition*)
- ❑ Regional and site based monitoring of wetland values (eg: *water quality, habitat condition, waterbird breeding events, summer wader counts*)
- ❑ Review of plans to address emerging priorities and new information such as improved understanding of ecological requirements (eg: *adjusting operations to implement any agreed flow allocations to wetlands*)

Engaging and communicating with key wetland sectors/stakeholders

- ❑ Key stakeholders engaged in planning and delivery (*eg: landholders of sites containing important wetlands, technical experts, indigenous representatives, State Agencies, catchment managers, local government*)
- ❑ Technical extension and incentives for private landholders managing important wetlands (*eg: property management planning, rate relief, project funding*)
- ❑ Targeted communication programs to inform priority audiences (*eg: landholders managing important wetlands, local government elected representatives and officials which administer statutory controls*)

Note 1. Wetland and Waterbird Values in your region may include:

- Sites designated under the Ramsar Convention as a Wetland of International Importance (or meet the criteria for listing #);
- Sites within a World Heritage property where listing recognises the values of the wetland;
- Sites on the Register of the National Estate where listing recognises the values of the wetland;
- Sites reserved or otherwise protected under Australian Government and/or State/Territory legislation;
- Sites listed in the electronic database for *A Directory of Important Wetlands in Australia* (or meet the criteria for listing #);
- Sites in the East Asian-Australasian Shorebird Site Network (which is part of the *Asia-Pacific Migratory Waterbird Conservation Strategy 2001-2005*) - these may include inland sites (or meet the criteria for listing #);
- Sites listed by a relevant State/Territory or local government to recognise their values;
- Listed ecological communities where listing recognises the values of the wetland; or
- Sites which are important habitat for significant native species and communities, including regionally, state and nationally rare or threatened species, and migratory species.

Note 2. Examples of threats to wetlands and waterbirds include:

- | | |
|------------------------------------------------|--------------------------|
| - Water use (extraction, diversions, barriers) | - Lifestyle disturbance |
| - Reclamation | - Grazing and fire |
| - Pollution (chemical, thermal) | - Hunting and harvesting |
| - Sediments, salinity, nutrients | - Invasive species |
| - Upstream developments | |

Potential Ramsar, Directory Shorebird Sites that meet criteria will normally be identified through national, State and bio-regional systematic assessments.

Appendix 5.

Wetlands and Waterbirds Taskforce of Natural Resource Management Ministerial Council

Ms Deb Callister (Chair)

Director, Inland Waters Section
Department of the Environment and Heritage
GPO Box 787, CANBERRA ACT 2601
Ph (02) 6274 1955 Fax (02) 6274 2268
email: deb.callister@deh.gov.au

Mr Stewart Blackhall

Nature Conservation Branch
Department of Primary Industries, Water and Environment
GPO Box 44, HOBART TAS 7001
Ph (03) 6233 6585 Fax (03) 6233 3477
email: stewart.blackhall@dpiwe.tas.gov.au

Mr Lindsay Delzoppo

Director (Planning Services)
Planning Services Branch, Planning Division
Environmental Protection Agency
PO Box 155
ALBERT STREET BRISBANE QLD 4002
Ph (07) 3227 8498 Fax (07) 3221 9768
email: lindsay.delzoppo@epa.qld.gov.au

Mr Brenton Grear

Manager, Conservation Strategies, South East
Department for Environment and Heritage
PO Box 1046, MOUNT GAMBIER SA 5290
Ph (08) 8735 1118 Fax (08) 8735 1135
email: grear.brenton@saugov.sa.gov.au

Mr Michael Coote

Senior Environmental Officer, Wetlands
Department of Conservation & Land Management
Locked Bag 104
BENTLEY DELIVERY CENTRE WA 6983
Ph (08) 9334 0333 Fax (08) 9344 0466
email: michaelco@calm.wa.gov.au

Ms Janet Holmes

Department of Sustainability and Environment
Level 4 250 Victoria Pde
EAST MELBOURNE VIC 3002
Ph (03) 9412 4264 Fax (03) 9637 8117
email: janet.holmes@dse.vic.gov.au

Mr David Lawson

Assistant Director of Conservation Management
Parks and Wildlife Commission of the NT
PO Box 496, PALMERSTON NT 0831
Ph (08) 8999 4561 Fax (08) 8999 4793
email: david.lawson@nt.gov.au

Mr Mark Lintermans

Wildlife Research and Monitoring
Environment ACT
PO Box 144, LYNEHAM ACT 2602
Ph (02) 6207 2117 Fax (02) 6207 2122
email: mark.lintermans@act.gov.au

Ms Clare Donnelly

Water Policy Coordinator
Department of Environment and Conservation
PO Box 1967, HURSTVILLE NSW 2220
Ph (02) 9585 6692 Fax (02) 9585 6495
email: clare.donnelly@npws.nsw.gov.au

Mr Brian Sheppard

Senior Issues Manager - External Relations Division
Department of Conservation
59 Boulcott Street
PO Box 10-420, WELLINGTON, NEW ZEALAND
Ph 0011 64 4 471 3071 Fax 0011 64 4 471 3049
email: bsheppard@doc.govt.nz

Appendix 6.

Australian Wetlands Information Network (AWIN) Members

Sarah Young (Government Focal Point)

Department of the Environment and Heritage
Inland Waters Section
GPO Box 787
CANBERRA ACT 2601
Ph (02) 6274 2791 Fax (02) 6274 2268
Email: sarah.young@deh.gov.au

Alison Beard (Secretariat)

Department of the Environment and Heritage
Inland Waters Section
GPO Box 787
CANBERRA ACT 2601
Ph (02) 6274 2555 Fax (02) 6274 2268
Email: alison.beard@deh.gov.au

Karyn Bradford

Regional Community Specialist
Wetland Care Australia
PO Box 154
BALLINA NSW 2478
Ph (08) 8537 0687
Email: karynbradford@wetlandcare.com.au

Bianca Priest

World Wide Fund for Nature
PO Box 528
SYDNEY NSW 2001
Ph (02) 8202 1229 Fax (02) 9281 1060
Email: bpriest@wwf.org.au

Lawrie Kirk

Murray-Darling Basin Commission
GPO Box 409
CANBERRA ACT 2601
Ph (02) 6279 0100 Fax (02) 6248 8053
Email: lawrie.kirk@mdbc.gov.au

Christine Prietto (Non-Government Organisation Focal Point)

The Wetlands Centre
PO Box 292
WALLSEND NSW 2287
Ph (02) 4955 8673 Fax (02) 4950 0497
Email: christine.prietto@det.nsw.edu.au

Warren Lee-Long

Wetlands International - Oceania Program
Shorebird Flyway Officer
Tel: +61 2 6274 2890
Email: warren.leelong@deh.gov.au

Alison Curtin

Wetlands Project Officer
Department of Environment and Conservation
PO Box 1967, HURSTVILLE NSW 2220
Ph (02) 9585 6665 Fax (02) 9585 6495
email: alison.curtin@npws.nsw.gov.au

Gay Deacon

Coasts, Wetlands and Waterways
Environmental Protection Agency
PO Box 155
ALBERT STREET BRISBANE QLD 4002
Ph (07) 3227 6880 Fax (07) 3221 0768
Email: gay.deacon@env.qld.gov.au

Michaela Birrell

Department for Environment and Heritage
GPO Box 1047
ADELAIDE SA 5001
Ph (08) 8124 4738 Fax (08) 8124 4717
Email: birrell.michaela@saugov.sa.gov.au

Libby McIntyre

Revive Our Wetlands
Conservation Volunteers Australia
PO Box 1662
DUBBO NSW 2830
Ph (02) 6882 5986 Fax (02) 6882 6599
Mobile 0429 019 309
Email: lmcintyre@conservationvolunteers.com.au

Appendix 7.

Useful Web sites

Australian Government

National Action Plan for Salinity and Water Quality home page www.napswq.gov.au

Natural Heritage Trust www.nht.gov.au

Department of Agriculture, Fisheries & Forestry - Australia www.affa.gov.au

Department of the Environment and Heritage www.deh.gov.au

Australian Wetlands Database www.deh.gov.au/water/wetlands/database/index.html

Third edition of *A Directory of Important Wetlands in Australia* www.deh.gov.au/water/wetlands/database/contents.html

Department of the Environment and Heritage water quality targets home pages www.deh.gov.au/water/quality/targets

Australian Natural Resources Atlas
http://audit.deh.gov.au/ANRA/atlas_home.cfm
Make a map of your region.

National Land and Water Resources Audit
www.nlwra.gov.au

Commonwealth and State legislation
www.deh.gov.au/about/legislation.html#legislation

EPBC Act 1999
www.deh.gov.au/epbc/index.html

Murray-Darling Basin Commission
www.mdbc.gov.au/index.htm

Australia State of the Environment 2001
www.deh.gov.au/soc/index.html

Natural Resource Management Ministerial Council
www.deh.gov.au/nrm/nrmmc/index.html

New South Wales

Department of Infrastructure, Planning and Natural Resources www.dipnr.nsw.gov.au

NSW National Parks and Wildlife Service
www.nationalparks.nsw.gov.au/npws.nsf/Content/Home

Victoria

Department of Sustainability and Environment
www.dse.vic.gov.au/dse/index.html

Queensland

Department of Natural Resources and Mines
www.nrm.qld.gov.au/

Environmental Protection Agency/Qld Parks and Wildlife Service
www.epa.qld.gov.au/

South Australia

Department for Environment and Heritage
www.environment.sa.gov.au

Department of Water, Land and Biodiversity Conservation www.dwr.sa.gov.au

Department of Primary Industries and Resources
www.pir.sa.gov.au

Regional Information
www.regional.net.au/water/infor/default.htm

Tasmania

Department of Primary Industries, Water and Environment www.dpiwe.tas.gov.au

Western Australia

WA Natural Resource Management Council

www.nrm.org.au/

State Salinity Council www.salinity.org.au

Water and Rivers Commission

www.wrc.wa.gov.au

Department of Conservation and Land Management

www.calm.wa.gov.au/index.html

Department of Agriculture

www.agric.wa.gov.au/default.pasp

Northern Territory

Department of Infrastructure, Planning and
Environment (inc. Parks and Wildlife Commission of
the NT)

www.ipe.nt.gov.au/