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Integrating Wetlands Management into Regional NRM Plans



Guiding integration

This is a supporting document to *Guidelines for developing a Regional Natural Resource Management Plan and Regional Investment Strategy in Queensland*. Its purpose is to:

- Help guide regional bodies in developing natural resource management plans that meet accreditation criteria for wetlands management;
- Provide direction on practical approaches for incorporating the best available information and advice on wetland management into the planning processes and implementation actions; and
- Provide a reference point for priorities on wetland management.

A considerable range of mechanisms is used in Australia to conserve and manage wetlands. These mechanisms may include education and awareness raising, economic incentives, and/or regulation of activities and land use to ensure on-ground action to conserve and manage wetlands. The appropriate use of these mechanisms will reflect regional issues including the condition of regional wetland resources, the use of the wetlands and the key threatening processes.

Wetland values and functions

The *Strategy for the Conservation and Management of Queensland Wetlands (1999)* is the key policy document that governs the conservation and management of wetlands in Queensland.

The Strategy defines wetlands as –

“...areas of permanent or periodic inundation, whether natural or artificial, 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 6 metres”.

Thus, wetlands include:

- Mangrove and saltmarsh areas;
- Freshwater and saltwater lakes;
- Land such as heathland and floodplains that is flooded periodically;
- Swamps;
- Creeks and rivers;
- Overflows from creeks and rivers such as billabongs and lagoons that fill after rain;
- Built water storages such as dams;
- Shallow coastal inshore waters including coral reefs;
- Seagrass beds;
- Tidal flats; and
- Underground marshes and streams.

The ecological, social, economic, and cultural values and functions of wetlands include:

- Play a key role in supporting the diversity and abundance of plants and animals, and provide important habitat and refuges for many migratory, rare or threatened species;
- Are an essential part of natural hydrological cycles, provide water passage and storage, and may contribute to flood mitigation and the recharge of aquifers;
- Purify water by stripping nutrients and intercepting sediments;
- Provide coastal protection against destructive natural events such as cyclones;
- Make a significant contribution to the economic productivity of the State by providing essential water sources for agricultural, urban and industrial uses, vital breeding, nursery and harvest sites for edible fish, molluscs and crustaceans, broodstock for aquaculture, and areas of pasture for stock;

- Contain navigation and port facilities essential for trade;
- Feature significantly in the cultural heritage, spiritual values, and day-to-day living of Aboriginal and Torres Strait Islander peoples;
- Contribute to the well-being of people through landscape diversity, heritage values, and aesthetic appeal; and
- Feature strongly in the Queensland's tourism and recreation appeal.

Managing wetlands conservation and management will vary across regions and jurisdictions and will reflect regional issues including the condition of regional wetland resources, the use of the wetlands and the key threatening processes.

Threats to wetlands

The role of wetlands in a healthy environment has historically been poorly understood. Many wetlands in Queensland have been considerably modified and destroyed because of human activities for example recent studies by Environment Australia (see section "Information Sources and Linkages") have shown that about half of the nation's natural wetlands have been destroyed since European settlement and within the Great Barrier Reef catchment, approximately eighty per cent of pre-settlement wetlands have been lost.

Some of the key threatening processes that affect wetlands include:

- Draining wetlands to provide land for agriculture or forestry;
- Reclamation of wetland areas for urban development or dredge spoil placement;
- Construction of bunds and constructed barrages in coastal areas that affect the flow of saltwater into the wetlands;
- Urban and rural stormwater runoff that affects wetland water quality as a result of siltation and from pollutants such as heavy metals, insecticides, fertilisers and sewage;
- Construction of flood control and water conservation works (both on- and off-stream) that affect a wetlands natural hydrology which is crucial for temporary wetlands and the breeding cycles of some animals;
- Introduction of livestock and feral pigs grazing around wetland edges that cause damage to wetlands plants and cause sedimentation;
- Introduction of exotic pastures, weeds and exotic fish species to wetland areas;
- Clearing of wetland vegetation for firebreaks and other purposes; and
- Climate change.

Addressing wetlands conservation and management in NRM plans

Regional NRM plans should address wetlands conservation and management as part of the full range of NRM issues (this is an accreditation criteria), and as a resource condition matter for targets (this is also an accreditation criteria). Wetland protection and management is also a goal and national priority for the Rivercare program through which NHT2 funding is directed. To meet accreditation criteria for wetlands conservation and management Figure 1 and the following steps should be addressed:

1. Identify, describe and document the wetland resources and wetland values of the region (mapping and/or inventory of wetlands);
2. Identify information gaps (e.g. wetland inventory data and mapping) and how to address them for those areas deemed most important for wetlands conservation and management;
3. Identify and document the key threats to wetlands in the region;
4. Determine the significance of the wetlands present in the region (wetlands assessment);
5. Define and prioritise targets for wetland conservation and management in the region;
6. Identify and take account of national and State planning and policy frameworks to enhance conservation and management (including restoration) of wetlands in the region

(for example, the Great Barrier Reef Water Quality Protection Plan, State and Regional Coastal Management Plans, land and water management plans, Ramsar Site Management Plans, threatened species and ecological communities recovery plans, wildlife conservation plans, local government planning schemes);

7. Address the impacts of threatening processes and land use decisions on downstream wetlands in the relevant NRM region;
8. Consult affected stakeholders and the community and identify any social and economic issues for the NRM to incorporate;
9. Determine resource condition targets and management actions for the conservation and management of wetlands. Wetlands values and targets for protection should be determined at a landscape and regional ecosystem scale for coordinated local action;
10. Describe how information about the importance, values and functions of wetlands and best practice conservation and management of wetlands will be disseminated and community awareness raised;
11. Describe how wetland extent and condition will be monitored and reported.

Figure 1 illustrates how the key plans, policies and legislation covering wetlands can be addressed in a regional NRM plan.

Information sources and linkages

In order to address the matters listed above, regional bodies require sound information about the location and values of wetlands in the region; plans, policies and legislation that provide national and state direction; aspirational targets; resource condition assessment and guidance to action conservation and management of wetlands. Following are four primary categories of information sources and government initiatives.

1. Location and Values of Wetlands

Wetlands of International and National Importance

Wetlands of international and national significance are already mapped and are available from a number of sources, including electronic databases and management documents.

There are five wetlands of international importance in Queensland declared under the Ramsar convention. The Australian Government has an obligation to conserve and manage these wetlands in cooperation with the State Government. More information about management of Ramsar sites is available in the document, *Integrating wetland into NRM regional planning and implementation processes* produced by the Australian Government 2003.

One hundred and eighty one (181) wetlands of national importance in Queensland are listed in *A Directory of Important Wetlands in Australia*. The *Directory* provides an inventory of each wetland and a map showing the boundaries of the wetland (www.deh.gov.au/water/wetlands/database/index.html).

Another useful resource is the *Characteristics of Important Wetlands in Australia* (www.environment.gov.au/water/). Also see the Australian Terrestrial Biodiversity Assessment 2002 – Wetlands and Riparian Zone (www.audit.deh.gov.au/ANRA/vegetation/biodiversity/bio_assess_contents.cfm).

Wetlands of Regional and Local Importance

The databases mentioned above provide details of wetlands of international and national importance. Other sources of information exist for other wetland sites within a region. For example, wetlands maps may exist as part of:

- Regional coastal management plans under the *Coastal Protection and Management Act 1995*;
- Regional frameworks for growth management (such as the SEQ 2021);
- Local government planning schemes; and/or
- Specific wetlands mapping projects (please contact your relevant Regional Co-ordination Group).

The Government agencies producing these plans will generally hold such information in a mapped form for ready use by regional bodies in NRM planning. However, the information may be in different forms and at different scales.

Coordination of Mapping Information

The Environmental Protection Agency, as the lead agency for wetlands management in Queensland, has developed the Directory of Products and Service for regional natural resource management, planning and implementation. This directory provides guidance on information and advice available from EPA to support the making of NRM plans, including information about wetland management. The *Directory of Products and Services for regional natural resource management, planning and implementation* can be found at www.epa.qld.gov.au/publications?id=735

In addition, under the *Strategy for the Conservation and Management of Queensland Wetlands*, the EPA is developing an implementation plan with assistance from other Queensland government departments, the Federal government and key stakeholders that will involve developing:

- A framework for assigning values to wetlands (ecological, social, cultural, economic);
- A map of Queensland's wetlands;
- A methodology for undertaking wetland inventories; and
- A method for assessing the conservation status of wetlands.

This is an iterative process and regional bodies should use existing information where possible, and update plans in the future when further data is available.

2. Legislation

The following legislation is the main regulatory mechanisms affecting wetlands conservation and management. More information is available from relevant government web sites:

- *Integrated Planning Act 1997*
- *Environmental Protection Act 1994*;
- *Nature Conservation Act 1992* (including conservation areas);
- *Land Act 1994* (including leasehold land conditions);
- *Vegetation Management Act 1999* (including regional vegetation management codes); and
- *Environment Protection and Biodiversity Conservation Act 1999* (including Ramsar wetlands) (Federal).

3. Agreements

- Agreement between the Government of Australia and the Government of Japan for the protection of Migratory Birds in Danger of Extinction and their Environment (1981) (JAMBA); and

- Agreement between the Government of Australia and the People's Republic of China for the protection of Migratory Birds and their Environment (1986) (CAMBA).

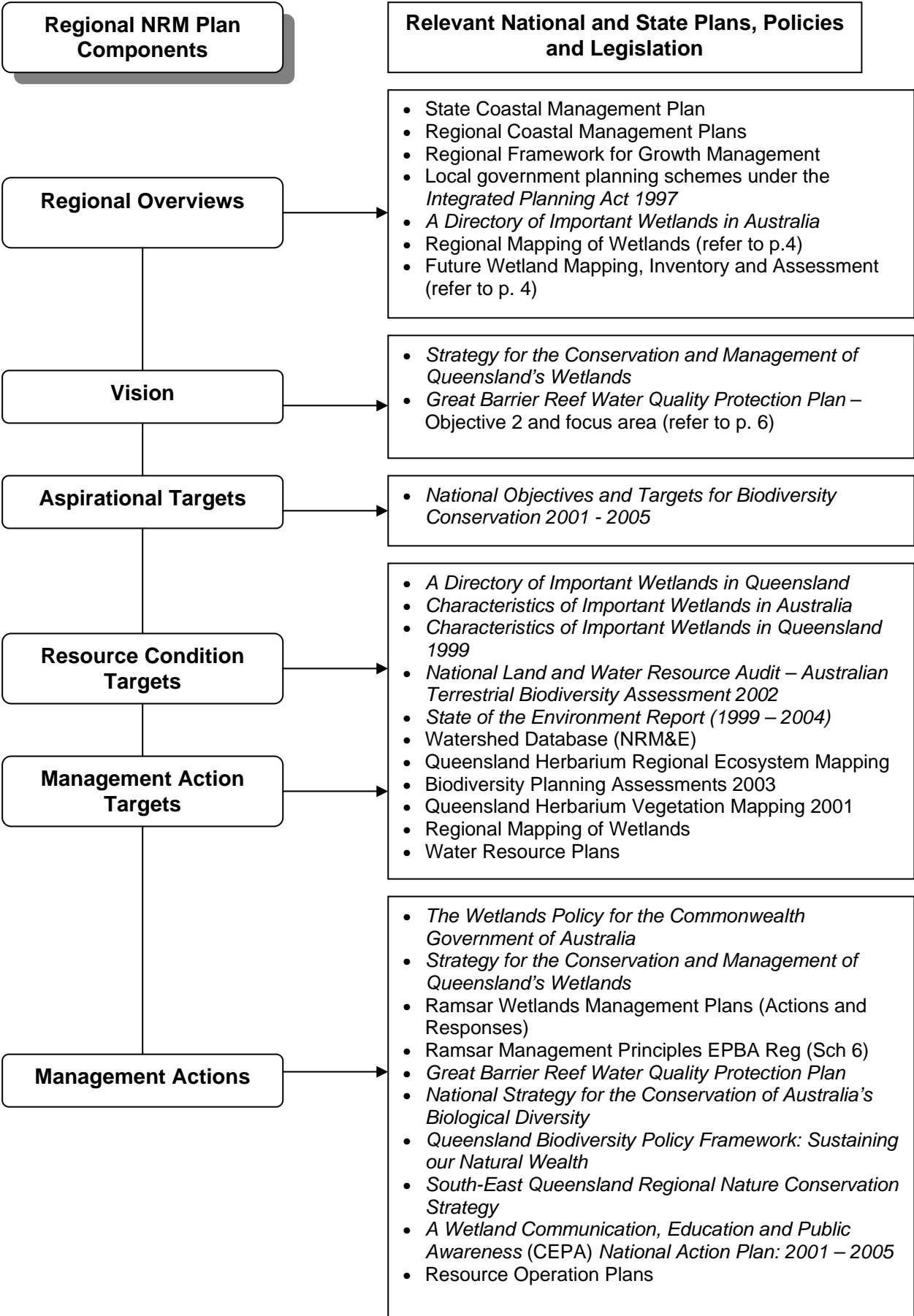
These agreements identify the migratory species protected under the agreements.

4. National, State, Regional and Local Planning

The following existing plans address wetlands conservation and management:

- *Great Barrier Reef Water Quality Protection Plan*
- Department of the Environment and Heritage, Australian Government, October 2003
- (www.deh.gov.au/coasts/index.html).
- Guidelines such as *Biodiversity Conservation in Regional NRM Planning* Land and Water Australia Research, November 2003
- (www.lwa.gov.au/publications_search_details.asp?id=437).
- Review of the National Strategy for the Conservation of Australia's Biological Diversity 2001 (www.deh.gov.au/biodiversity)
- *Queensland Biodiversity Policy Framework: Sustaining our Natural Wealth*, Queensland Government, September 2003
- (www.epa.qld.gov.au/nature_conservation/biodiversity/)
- State and regional coastal management plans
- (www.epa.qld.gov.au/environmental_management/coast_and_oceans/coastal_management/)
- Regional Nature Conservation Strategy for South East Queensland (2003 – 2008)
- Environmental Protection Agency, Queensland Government, September 2003
- (www.env.qld.gov.au/nature_conservation/biodiversity/conserving_biodiversity/regional_nature_conservation_strategy/)
- Specific Wetlands Mapping Studies (please contact relevant Regional Coordination Groups).
- Local government planning schemes and supporting local laws and policies (www.ipa.qld.gov.au/). Also see specific local government websites.

Figure 1: Regional NRM Links to State and Regional



Implementing NRM plans

Wetland conservation and management measures identified in regional NRM plans can be implemented through a range of mechanisms, including:

- Regional coastal management plans under the *Coastal Protection and Management Act 1995* and marine park plans under the *Marine Parks Act 1982*;
- Local government planning by ensuring planning scheme assessment codes, overlays and other measures include suitable provisions;
- Using conservation agreements under the *Nature Conservation Act 1992* and conservation covenants under the *Land Act 1994*;
- Through the acquisition of wetland areas of high nature conservation value and conversion of areas to State land or protected areas; and
- Through incorporating wetland conservation and management in property management planning and formally recognising these in lease conditions and land management agreements.

These additional methods of achieving on the ground outcomes should be considered and identified as the NRM plan is developed.

Important contacts, support and further information

Please refer to the following modules:

- Module 11 – *Integrating Coastal and Marine Park Management into Regional NRM Plans*;
- Module 13 – *Integrating Biodiversity Planning into Regional NRM Plans*;
- Module 21 – *Environmental Values for Water Quality*; and
- Module 27 – *Adaptation to Climate Change in NRM Plans*.

In addition, the EPA contact officers listed below can assist regional NRM bodies with queries:

Manager, Environmental Planning
Southern Region
Ph: (07) 3224 7049
MEP.Southern@epa.qld.gov.au

Manager, Environmental Planning
Central Region
Ph: (07) 4936 0523
MEP.Central@epa.qld.gov.au

Manager, Environmental Planning
Northern Region
Ph: (07) 4722 5240
MEP.Northern@epa.qld.gov.au

Non-Government Organisations

Non-government organisations also have expertise in wetland assessment and management (including restoration). Such groups include Wetland Care Australia, Wetlands International, WWF Australia, Greening Australia and the Queensland Wader Study Group.