WETLANDS OF THE Murray-Darling BASIN

Wetlands are essential for many types of native plants and animals, and for humans. They keep the natural environment healthy, and benefit our social, cultural and economic lives. Many wetlands use both surface water – found in rivers, lakes and streams – and water from below ground. Some wetlands depend on this groundwater to survive. Wetlands can be permanent, semi-permanent or seasonal, and their size and structure can change over time.

Importance
Wetlands are as precious, storing water, recycling nutrients, trapping sediment and filtering water. Wetlands also support diverse aquatic and terrestrial ecosystems.

Cultural values
Aboriginal people view water as being connected to the land, and also view water use as an integral part of the land and river systems. Because of this, Aboriginal people feel a strong responsibility for the health of rivers and wetlands.

Economic values
Wetlands support recreation, agriculture and the economy by keeping water clean and supporting ecosystems healthy. They provide areas for leisure and recreation for local residents and tourists.

Environmental values
Wetlands provide essential habitats for many different organisms including waterfowl, fish, invertebrates, and plants. They are habitats for many unique species found only in wetlands and provide refuges, food and shelter for animals in surrounding areas.

Native grazers and animals have adapted to the natural flooding and drying cycle, which is needed for a healthy wetland.

Challenges and threats

Changed river flows: The regulation of river flows through structures such as dams has changed natural flow patterns and has significantly reduced the amount of water that flows into wetlands.

Invasive species: Introduced fish species including common carp (Cyprinus carpio) and golden carassius auratus and the gibelion fish (Carassius gibelio) compete with, and prey on, native fish.

Introduced animals such as feral pigs, feral cats and foxes are also threats to native animals.

Introduced plants can have major impacts on the natural functions of wetlands such as reducing the amount of water available and another large areas of wetland.

Erosion and sediments: Erosion is a natural process but it can be increased by changing river flows, loss of upstream vegetation, unrestricted stock access and the impacts of floods. In channels that are deepened and widened by erosion, larger flows are needed to shift water out of the channel and across the floodplain.

Land management: Precipitation or irrigation drainage reduces negative impacts, such as erosion of river banks.

Water quality: Water quality can be affected by run-off from channels and roadways from upstream sources, and some groundwater entering through channeled river flows.

Climate change: The impacts of climate change are currently uncertain. Unusual climate changes can change water availability and timing of river flows, which will affect wetlands and the animals who use them.

Management
Managing wetlands can range from small-scale management by local landholders to collaborative government management under international responsibilities.

Wetlands provide habitats for many types of native fish, invertebrates, and plants. They are essential (and necessary) for the health of nearby aquatic and terrestrial ecosystems.

Environmental watering

5 THINGS YOU CAN DO FOR WETLAND HEALTH

1. Save water: Fresh water is limited and precious. Using less water means that more is available to keep rivers healthy.

2. Keep rivers and creeks clean: Prevent litter and chemicals getting into our rivers so that plants, animals and downstream areas stay healthy.

3. Control pests: Do your bit to control introduced animals and invasive weeds to prevent the damage from spreading.

4. Volunteer: There are many ways you can improve river health and restore local habitats.

5. Experience: Learn more about wetlands to help everyone understand their importance and the challenges facing these unique areas.


The Murray-Darling Basin has over 30,000 wetlands.
Macquarie Marshes

Known as “the Marshes”, this large, semi-permanent wetland filters the water of the Macquarie River in central northern New South Wales. The Macquarie Marshes Nature Reserve and State Conservation Area cover 21,927 hectares, with the area of marsh expanding up to 200,000 hectares. The Marshes contain a range of wetland types from water couch grasslands, reedbeds and river red gum forest, to less frequently filled wetlands of coolabah and black box woodland.

Aboriginal cultural values

The Macquaries are the care of the traditional country of the Walbiri peoples. Aboriginal peoples have inhabited the Macquarie Marshes area for thousands of years. The Macquarie Marshes offer rich opportunities for obtaining a plentiful supply of fish, waterbirds and kereru. Aboriginal cultural values are related to both the long history of interactions with the landscape and the interests and aspirations of today’s communities who have custodial relationships with the area. Aboriginal peoples have maintained their connection to the land and waters.

Socio-economic values

Over 40 per cent of the Marshes is privately owned and supports agriculture production including grazing, with some areas of dryland and irrigated farming. Cotton growing occurs mainly in water areas with surrounding dryland and also supporting sheep grazing. R painting and kangaroo harvesting also contribute to the local community.

Environmental values

The Marshes contain numerous native vegetation, from wetland grasses and reeds to large river red gums. Ecologically significant, in 1995 the Macquarie Marshes Nature Reserve was listed under the Ramsar Convention as a ‘Wetland of International Importance’ for its significance as a floodplain wetland in a semi-arid landscape. Further areas of private land were added in 2000 (Wilgara Estate) and 2012 (‘U-block’). The Australian and NSW governments maintain the biological diversity for which the Marshes are listed. Visit www.environment.nsw.gov.au/wetlands/marshes/macquariemarshes.htm for more information.

Challenges and threats:

Over 10% is managed for conservation in areas such as national parks.

Climate change:

Scientific predictions suggest less surface water will be available in future and there will be a change from unevenly distributed rainfall to more summer-dominant rainfall in the catchment.


Macquarie Marshes at a glance

Name: Macquarie Marshes

State: NSW

Size: 20,000-200,000 ha

Catchment: Macquarie

Route to the sea:

Macquarie Catchment ➔ Barwon River ➔ Darling River ➔ Murray River ➔ Southern Ocean

Closest towns:

Quintinba, Coranda, Walgett, Warren, Nyngan, Coonamble

Local Government Area:

Warren, Coonamble, Walgett

Nearest capital city:

Sydney, NSW: 8-11 hours ~650 km

Nearly 90% of the wetland is privately owned. The remaining 10% is managed for conservation in areas such as national parks.

THE macquarie marshes

WETLAND SYSTEM

Climate change: Scientific predictions suggest less surface water will be available in future and there will be a change from unevenly distributed rainfall to more summer-dominant rainfall in the catchment.


Management:

Co-operation and partnerships are utilised to increase the health of the Marshes for wildlife and local communities. Extra water delivered for plants and animals is managed by the NSW government, with water provided from the lower Murray-Darling Basin Plan and water licences purchased by the NSW and Australian governments. Visit www.environment.nsw.gov.au/wetlands/macquariemarshes.htm for more information.

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