



Australian Government

Department of Sustainability, Environment, Water, Population and Communities

Wetlands Australia

NATIONAL WETLANDS UPDATE, JULY 2013 – Issue No 23

Wetland Management Tools

Other chapters can be downloaded from:

<http://www.environment.gov.au/water/publications/environmental/wetlands/wetlands-australia/wa23.html>

WETLAND MANAGEMENT TOOLS



Discussing peat soils at Belmont State Park, Lake Macquarie NSW (*WetlandCare Australia*).

WetlandCare Australia's Wetland Assessment Technique—a practical tool for natural resource managers & landholders alike

Kirralee Donovan, WetlandCare Australia

Effective wetland management has a strong emphasis on assessment, monitoring and evaluation. Integral to this process is the collection of sufficient baseline data. This data needs to be detailed enough to paint an accurate picture of wetland health, guiding the identification and prioritisation of issues as well as providing a critical point of comparison to assess the success of on-ground action over time.

The availability of resources to monitor management works over an extended period is a challenge commonly faced in wetland management. Landholder and community involvement in this process is invaluable in gaining an understanding of restoration efforts in the immediate short-term, during and after works, but also in the long-term.

WetlandCare Australia, a leading national wetland conservation organisation, has been building community skills and capacity in wetland monitoring through their Wetland Assessment Technique. The technique is a field-based tool used to assess various aspects of wetland health. It is designed to monitor changes over

time and recognise appropriate triggers for improved management.

The Assessment Technique has proved to be of equal value to landholders working at a local property scale and to natural resource management organisations working on catchment scale wetland condition assessment, management and improvement. The technique helps to increase the capacity of a range of stakeholders from individuals with scientific backgrounds to landholders with minimal knowledge and understanding of wetland functions and processes.

Implementation of the technique has shown that the benefits of building broader community involvement in wetland assessment methodologies are twofold; managers are able to see the long-term outcomes of conservation efforts and dollars spent on the ground and landholders are able to build their understanding, skills and capacity in managing their wetlands and local environment.

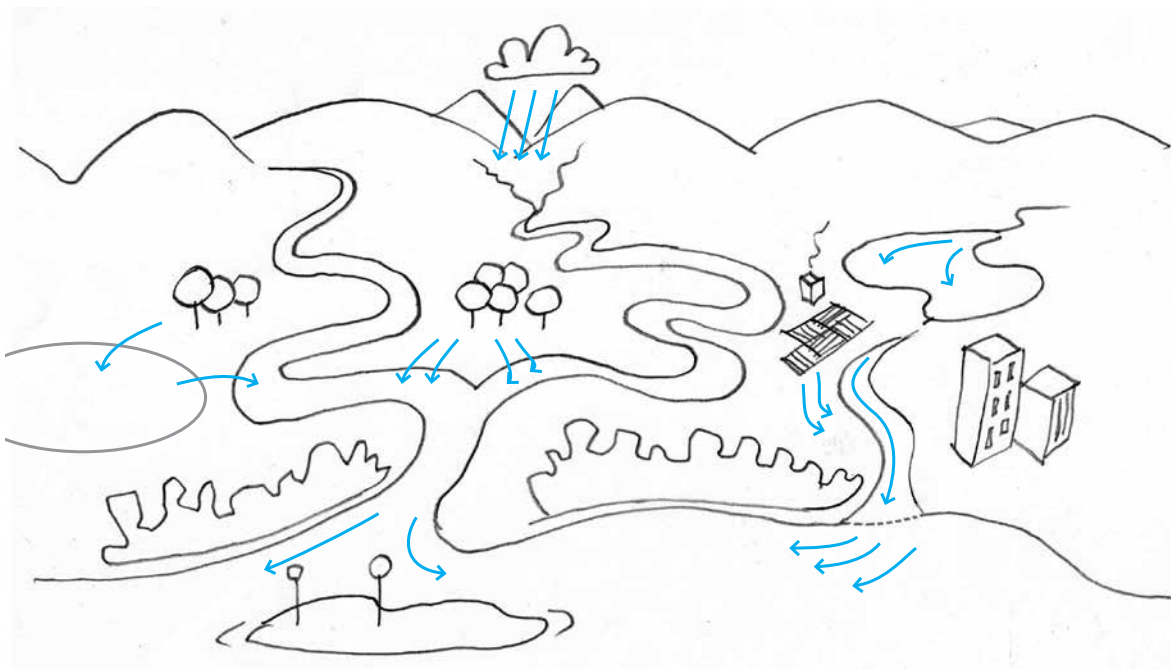
The Assessment Technique provides a comprehensive basis for natural resource managers to rapidly monitor the overall health and general condition of wetlands, achieving greater baseline data and understanding of change over time. Impact monitoring to measure environmental change aims to result in the timely implementation of protection, restoration or rehabilitation measures - the overall objective of effective wetland management.

The data collected from wetland monitoring efforts like the Wetland Assessment Technique is often fed into State Government planning, policy making and wetland mapping hence influencing priority wetland management works and further monitoring efforts.



Cassie Price teaching the community elements of the Wetland Assessment Technique at Partridge Creek, near Port Macquarie NSW (WetlandCare Australia).

For further information on the Wetland Assessment Technique, wetland issues and management options contact WetlandCare Australia, (02) 6681 6169, **ballina@wetlandcare.com.au** or visit **www.wetlandcare.com.au**.



A rough preliminary sketch from the storyboard for the Aquatic Ecosystem Connectivity animation (Damien Ledwich, ToadShow Pty Ltd).

Connectivity and the landscape

Queensland Wetlands Program


An appreciation of the connection of a wetland to other wetlands and to the broader catchment, landscape and seascape is important for making effective management decisions. In fact many of the values and ecosystem services credited to wetlands can only be provided when the wetlands are part of a connected network.

Connectivity is underpinned by the interaction between the wetlands, habitats, species and the ecological processes within the landscape. Without an understanding of these underlying processes, it is both difficult to define and assess

connectivity to inform management actions to conserve or restore wetland values.

While some effective wetlands management actions can be conducted at a site level, without an appreciation of the connection of the wetlands to other wetlands and the broader landscape, many site-specific actions may be of limited value.

Over recent years there has been an increasing realisation among planners, managers and policy makers that effective management of wetlands is often hampered by the lack of a consistent framework for understanding the vital role connectivity plays in their structure and function.



The *Framework for evaluating aquatic ecosystem connectivity* (<http://wetlandinfo.ehp.qld.gov.au/resources/static/pdf/ecology/connectivity/qwp-connectivity-project-22-2-13.pdf>) has recently been released by the Queensland Wetlands Program (QWP) to assist wetland managers to make the most effective decisions. The framework describes a process for systematically and transparently working through the connectivity for relevant functions of an aquatic ecosystem, and identifying the appropriate scale to apply to their management.

The connectivity framework was developed through expert workshops involving policy makers, scientists and individuals from a wide range of disciplines.

A method for collecting information relating to connectivity has also recently been developed. *Walking the landscape—a whole-of-system framework for understanding and mapping environmental processes and values* (<http://wetlandinfo.ehp.qld.gov.au/resources/static/pdf/ecology/connectivity/walking-the-landscape-15-02-13.pdf>) can be effectively used in conjunction with the framework (See Wetlands Australia February 2013 edition).

To help to understand connectivity and its importance, and how it complements the framework, a short video with animation has been developed.

The key principles for understanding aquatic ecosystem connectivity are:

- Connectivity is a mechanism that facilitates ecological processes.
- Knowing that there is the potential for connectivity to occur does not guarantee that it actually will occur.
- Connectivity occurs through the physical environment, that is, through air, water, land and underground.
- All relevant parts of the ecosystem (including soils, plants and animals) and connectivity are important for long-term environmental resilience.
- It is important to consider the entire area that may be affected by ecological processes, for example, flooding over the landscape, and the duration of the impact, to better understand how the processes work and the time and scale of their impact.

The key principles for managing aquatic ecosystem connectivity are:

- Connectivity should be linked to the overall management objectives.
- Knowledge gaps and uncertainty exist, but should not stop decision making.
- Developing conceptual models of underlying processes help to identify and understand connectivity.
- Adaptive management allows for decisions to be refined over time.

Guidelines and template for preparing a wetland management plan

Queensland Wetlands Program, Department of Agriculture, Fisheries and Forestry, Queensland Murray-Darling Committee and Wetlands International-Oceania

The power of partnerships

A powerful alliance of wetlands specialists, government, and rural landholders has led to the production of a new management tool—*Guidelines and template for preparing a wetland management plan*¹.

The guidelines are accompanied by two case studies from beef producers sustainably managing semi-arid grazing enterprises in the catchment of the Murray-Darling Basin. The guidelines provide step-by-step instructions for landholders and other wetland managers to prepare a wetland management plan.

The partnership was formed between the Queensland Department of Environment and

Heritage Protection (Queensland Wetlands Program); the Australian Government Department of Agriculture, Fisheries and Forestry (DAFF); Wetlands International–Oceania; the Queensland Murray-Darling Committee (QMDC); the South-West Natural Resource Management team and two South West Queensland property owners.

QMDC's Water and Wetlands Program Leader, Paul Webb, outlines the value of the guideline:

"QMDC now uses or adapts the guidelines and template in the development of Wetland Management Plans as stand-alone documents, or, as part of sub-catchment plans over a variety of landscapes across the Queensland Murray-Darling Basin. Plans can then be implemented and support can be garnered from public funding using the plans as a basis for funding applications".

Case studies prove financial gain

A key part of the project was to provide landowners with information through case studies, demonstrating the financial benefits of good land and wetland management practices.

The case study on 'Shannendoah'², north of Bollon, was undertaken to determine the benefits, both economic and environmental, of introducing new grazing regimes. Large paddocks were divided into smaller grazing areas, each serviced by off-stream watering points. The owners have recognised the importance of optimising land condition and the benefits to production.

The second case study on 'Wallen'³, north of Cunnamulla, also focused on introducing a



Grassy floodway at Wallen (Roger Jaensch, Wetlands International).



22 Mile Waterhole, Wallen (Roger Jaensch, *Wetlands International*).

new grazing regime that included careful water management, bore capping, and a fencing program. Results have included an increase in the control of flowing water and livestock habits, more sustainable production, increased protection of biodiversity, and improved condition of riverine and other wetland systems.

The *Guidelines and template for preparing a wetland management plan* integrates with other recently updated tools available through *WetlandInfo*⁴. The guideline provides practical information for wetland managers developing management plans. It is compatible with existing property or

sub-catchment management plans, grazing management plans, and may assist in the development of land management agreements.

- 1 <http://wetlandinfo.ehp.qld.gov.au/wetlands/resources/publications/reports.html>
- 2 <http://wetlandinfo.ehp.qld.gov.au/resources/static/pdf/resources/reports/farming-case-studies/cs-shannendoah-property-south-west-12-04-2013.pdf>
- 3 <http://wetlandinfo.ehp.qld.gov.au/resources/static/pdf/resources/reports/farming-case-studies/cs-wallen-property-south-west-12-04-2013.pdf>
- 4 <http://wetlandinfo.ehp.qld.gov.au>