

Water for  
Wildlife  
in the  
Wah Wah  
District:  
*planning for  
the future*



1) "Te Aro", Mid Western Highway, Gunbar 2711  
Tom and Margaret Porter

**Wetland Management Planning Guide for Te-Aro Swamp**

**Key Objective:** To build on the existing habitat values and manage the swamp as a wildlife refuge.

**Key Actions:** Increase flooding frequency by delivering environmental water (~205 ML) via new channel. Flooding duration for 3-7 months, repeated every 1-3 years. Maintain existing grazing regime; consider fencing, patch-burning, crash-grazing and slashing to maintain structural diversity.

## Wah Wah: Water, Wetlands & Wildlife

**Context:** As part of the Australian Government's water use efficiency initiatives, a major infrastructure upgrade has been planned for the Wah Wah district, north of Hay in the New South Wales Riverina. The \$44M replacement of open channels and ground tanks (farm dams) with a pipeline and trough system is set to recover around 9000 megalitres in water savings per year.

Since the 1930s, many wildlife species have come to depend on the ground tanks, and so in 2011 and 2012, a study initiated by the local Landcare group began. It assessed the biodiversity values of Wah Wah's ground tanks and although they were relatively poor compared to the large, natural wetlands, it found that some supported important habitat and significant wildlife.

With Federal Government *Caring For Our Country* funding, this led to successful habitat enhancement trials, such as earthworks to increase ephemeral shallows and fencing to manage grazing, all completed with a view to mitigating the future loss of habitat when the pipeline replaces the old system.

Murrumbidgee Landcare was then successful in seeking funding from the Norman Wettenhall Foundation in 2015 to capitalise on the momentum and local interest and extend the work to five key natural wetlands by developing specific management plans with the respective landholders.

The idea is that these guides will provide a first step in initiating positive management actions and future resources and funding. These plans are intended to be concise, adaptive, guiding documents, and not onerous in their scope and implementation.

Because each of the owners helped determine these management plans and developed their specific objectives, it is hoped there will be a strong sense of ownership moving forward.



**The Australian Spotted Crake is one of the cryptic, cover-dependent waterbird species that utilise the Te Aro Swamp.**

*"Changes to how a wetland is managed, even subtle tweaks, can yield huge benefits for wildlife, without hindering agricultural outcomes and often improving them."*



**Te Aro Swamp has potential to support the globally endangered Australasian Bittern.**



## Te Aro Swamp

**Description & History:** High quality 41-hectare wetland, dominated by Canegrass (*Eragrostis australasica*), with patches of Lignum (*Muehlenbeckia florulenta*), Nitre Goosefoot (*Chenopodium nitrariaceum*) and Common Spike-rush (*Eleocharis acuta*). It originally formed part of the Mirrool Creek system as an outlying floodway that filled during high flows. It is now disjunct from the Mirrool Creek because impediments like the stock and domestic channels that also function as levees, blocking flow.

The No. 8 channel constitutes the northern boundary. With the rare exception of extremely high flows in the Mirrool (approx. 1/30 years) when banks are blown out, it now only fills from run-off after substantial, local rainfall events. Te Aro was one of the original setter blocks and has a 130-year history of sheep grazing, which remains the primary land use today. This swamp is part of a ~1120 hectare paddock that has two ground tanks, one of which is approx. 1 km from the north-eastern boundary of the swamp and is serviced by the adjacent No. 8 channel that is due to be replaced by the pipeline.

**Values:** When flooded, supports high waterbird diversity and abundance. Canegrass, Nitre Goosefoot and other waterplants are in good condition and the area is known to support cover dependent waterbird species like the Australian Spotted Crake and Buff-banded Rail. It has potential to support two globally endangered waterbird species that also depend on shallow wetlands with waterplant cover: the Australasian Bittern and Australian Painted Snipe. The vegetation is known to provide habitat for the threatened White-fronted Chat (listed in NSW), the locally rare Crimson Chat and other more common birds like the Little Grassbird. During the flood years of 2011 and 2012, this swamp consistently yielded over 20 bird species per 20-minute survey.

**Issues:** Altering existing management, such as increased flooding frequency, runs the risk of undoing the habitat values at this already significant wetland, so careful, ongoing consideration is required. Presently, there are no major threats to this wetland beyond those general in nature (e.g. fox and cat predation on waterbirds). In the broader landscape, there is a predicted future loss of wetland habitat.

**Opportunities:** A small channel, approx. 1 km in length, from the nearby ground tank to the swamp was created as part of the previous Wah Wah project to facilitate the delivery of environmental water helping mitigate the loss of local habitat associated with the pipeline.

**Key Objective:** To build on the existing habitat values and manage the swamp as a wildlife refuge.

**Key Actions:** Increase flooding frequency by delivering water via new channel, somewhere in the order of 205 megalitres (average of 50 cm total usage across 41 ha), so that the deepest areas are wet for between three and seven months and then allowed to completely dry. For vigorous growth of Lignum and Canegrass, repeat flooding every one to three years (Roberts & Marston 2011). Maintain existing grazing regime; avoid grazing when wetland is flooded or overgrazing when dry.

**Future Considerations:** Consider patch burning, crash-grazing or slashing to restart vegetation succession and maintain structural diversity. Also, consider fencing the wetland area, including a small buffer, so that it can be managed independently of the large paddock. More specific objectives relating to the flooding regime, habitat structure and, for example, the habitat requirements of the Australian Painted Snipe, could be developed in the future.

Roberts, J & Martson, F. (2011). *Water regime for wetland and floodplain plants: a source book for the Murray-Darling Basin*. National Water Commission, Canberra.



**Te Aro Swamp (green perimeter) showing the approximate location of the new channel (red line) from the nearby ground tank.**

**Monitoring:** Photo points and aerial imagery could be used to track any changes in the extent and structure of vegetation. Waterbird surveys could be used to help gauge biodiversity response and support management that maintains the structural patchiness (e.g. see front page), which is central to the existing habitat values.

**Implementation and funding strategy:** Michael Fayle (Riverina Local Land Services), James Maguire (New South Wales Office of Environment and Heritage), Erin Lenon (Commonwealth Environment Water Holder) and Karen McCann (MIA Renewal Alliance) are all aware of this site and the opportunity to deliver water and manage it as a local wildlife refuge.

Site visits to organise and approve e-water delivery could be undertaken prior to spring, 2016. Presently, water is delivered through the Wah Wah stock and domestic system in April and October so a spring flow is possible. Funding and resources for fencing, patch-burning or slashing can be organised as needed with Murrumbidgee Landcare and Riverina LLS.

**Acknowledgements:** Marion Benjamin was successful in seeking Norman Wettenhall Foundation funding, while Ian Auld and Michael Fayle helped select sites, and Karen Jamieson helped manage the project. Matt Herring developed these plans with the respective landholders.