

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



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Wetland Management Planning Guide for Swan Swamp

Key Objective: To establish Swan Swamp as a private wetland conservation reserve for the Wah Wah region, reinstating flows and managing grazing independently.

Key Actions: Remove impediments to flow (bank channels) in the area immediately north-east of the swamp. Estimated earthworks costs are ~\$5000. Enable independent grazing management by fencing the core 45 hectares (~3km at \$7000/km = \$21 000).

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 planning guides 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.



After flooding, as the water is receding, Swan Swamp produces exceptionally high quality waterbird habitat, with its combination of shrubs like Old Man Saltbush, low cover in the form of *Eleocharis* Spike-rushes and mudflats, as seen here in September, 2012.

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



Swan Swamp is likely to provide habitat for the Australian Painted Snipe and other endangered waterbird species.

Photo by Peter Merritt.



Swan Swamp

Description & History: The core part of this wetland is approximately 45 hectares, situated within a much larger paddock. When flooded, it produces exceptionally high quality waterbird habitat and is one of the most significant wetlands for biodiversity in the Wah Wah district. It supports impressive stands of rare, old growth, remnant Old Man Saltbush (*Atriplex nummularia*), with a long history of flooding, some over 3 metres in height. It is also contains Nitre Goosefoot (*Chenopodium nitrariaceum*) and Lignum (*Muehlenbeckia florulenta*), but is otherwise dominated by Spike-rushes (*Eleocharis acuta*). There is a large ground tank and silt trap in the north-eastern corner that has been serviced by a channel running from the north. This channel is due to be decommissioned with the new pipeline scheme. The swamp has an approximately 140-year history of sheep and cattle grazing, which remain the primary land use. The swamp fills from its local catchment, particularly to the north-east, during substantial local rainfall events but the channel has acted to impede flow from this area over many decades. During recent floods, the channel banks blew out in two places but have since been repaired.

Values: Swan Swamp is a hotspot for biodiversity, particularly waterbirds, attracting over 40 species, some of which occur in their hundreds. It is an excellent example of a remnant, ephemeral wetland in the region, with a favourable history of management. The habitat diversity, such as open mudflats and dense waterplant cover, provide opportunities for a range of species like the Red-kneed Dotterel, Glossy Ibis and Spotted Crake. It has excellent potential to support the globally endangered Australian Painted Snipe and Australasian Bittern, as well as migratory shorebirds like the Common Greenshank and Wood Sandpiper. White-fronted Chats and White-winged Fairy-wrens are common around the ground tank, as are Eastern Long-necked Turtles and Spotted Marsh Frogs.

Issues: The key issue identified for Swan Swamp is that the existing ground tank delivery channel impedes flow and reduces the frequency of flooding and volume of water that the swamp receives. Another key issue is that grazing in the swamp cannot presently be managed independently of the paddock that it is situated in. Altering existing management, such as stock exclusion and increased flooding frequency or duration, runs the risk of undoing the habitat values at this already significant wetland, so careful, ongoing consideration is required. Despite considerable recent control efforts, African Boxthorn remains an issue, as does the impacts of fox and cat predation on wildlife.

Opportunities: Simple earthworks and fencing could augment the biodiversity values of this significant wetland.

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Key Actions: Remove impediments to flow (bank channels) in the area immediately north-east of the swamp. Estimated earthworks costs are ~\$5000. Enable independent grazing management by fencing the core 45 hectares (~3km at \$7000/km = \$21 000). A flooding frequency of once every 1-3 years would be ideal for maintaining vigorous growth and environmental water could be used to supplement the local catchment flows. A flooding duration of two to six months, followed by complete drying, would be compatible with the life cycles of most local biodiversity and maintain the crucial boom-bust nature of the site.

Future Considerations: Consider supplemental delivery of environmental water via new pipeline scheme to achieve desired flooding regime. An ongoing program of African boxthorn, fox and cat control.



The core area of Swan Swamp is approximately 45 hectares.

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 the biodiversity response and support management that maintains the habitat diversity which is central to the significance of this wetland.

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 reinstate flows and manage grazing independently.

Site visits to organise and approve funding for earthworks and fencing could be undertaken as soon as possible. Funding and resources for feral animal control and potential fencing 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.