

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



2) "Dri Dri", Mid Western Highway, Gunbar 2711

John Harvey

Wetland Management Planning Guide for Five Oaks Swamp

Key Objective: To establish Five Oaks Swamp as a shorebird conservation refuge for the Wah Wah region.

Key Actions: Increase flooding frequency to once every 2-3 years by delivering water from the No. 10 channel, with approximately 575 megalitres. Timing should coincide with peak shorebird activity between September and April. Maintain existing grazing regime prior to flooding to limit biomass of Canegrass and Lignum on mudflats.

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. 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 provided important habitat for significant wildlife.

Federal Government *Caring For Our Country* funding has led to successful habitat enhancement trials. These have included earthworks to increase ephemeral shallows and fencing to facilitate grazing and spelling cycles, 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.



John Harvey showing the height of vegetation in the main stand of Lignum which is on the eastern side of Five Oak Swamp in November, 2015. An ibis rookery has been recorded several times.

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



Five Oaks Swamp provided excellent habitat for shorebirds, like these Red-necked Avocets and Black-winged Stilts recorded in September, 2012.



Five Oaks Swamp

Description & History: This wetland is approximately 230 hectares, depending on the boundaries used. It's a significant part of the Mirrool Creek floodplain in the Wah Wah district and one of the largest wetlands in the region. It is presently dominated by low, regularly grazed stands of Lignum (*Muehlenbeckia florulenta*) and Canegrass (*Eragrostis australasica*) but in the central eastern part of the swamp it supports taller (>2 metres) Lignum stands. The swamp was part of the original Gunbar Station and has an approximately 150-year history of sheep and cattle grazing. This remains the primary land use. This swamp is part of a ~320 hectare paddock that has two ground tanks. The swamp fills from the south end when the Mirrool Creek has high flows, like those during the 2011 and 2012 floods. With the rare exception of extremely high flows in the Mirrool (approx. 1/30 years) when banks are blown out, it now only partially fills from run-off after substantial, local rainfall events.

Values: When flooded, supports high waterbird diversity and abundance, especially shorebirds. An ibis rookery has been observed several times over the past 30 years using the tall Lignum stands. In September, 2012, large numbers, at least several hundred, of Black-winged Stilt and Red-necked Avocet were recorded, together with migratory shorebirds from Russia, like the Sharp-tailed Sandpiper. The area has also supported Freckled Ducks. It has potential to support the globally endangered Australian Painted Snipe, which depends on shallow wetlands with low waterplant cover, as well as the Curlew Sandpiper, which is now considered critically endangered within Australia. Migratory shorebirds are undergoing a severe decline. The key driver is thought to be the loss of mudflats around the Yellow Sea, but managing some Australian wetlands for these shorebirds can aid global conservation efforts along the East Asian-Australasian Flyway.

Issues: The key issue identified for Five Oaks Swamp relates to the flooding regime and water supply. Prior to water resource development upstream it filled much more regularly. Altering existing management, such as increased flooding frequency or duration, runs the risk of undoing the habitat values at this already significant wetland, so careful, ongoing consideration is required. Presently, beyond flooding regimes and water supply, there are no major threats to this wetland, although grazing management could be undertaken more strategically to benefit biodiversity. Damage from pigs and the impacts of fox and cat predation on wildlife have been identified as secondary threats.

Opportunities: Seizing the shorebird conservation potential of this site. The swamp has two outlets from the No. 10 channel, which could be used to deliver environmental water. This channel is not due to be decommissioned and replaced with a pipeline.

Key Objective: To establish Five Oaks Swamp as a shorebird conservation refuge for the Wah Wah region.

Key Actions: Increase flooding frequency to once every 2-3 years by delivering water from the No. 10 channel, somewhere in the order of 575 megalitres (average of 25 cm total usage across 230 ha), so that the deepest areas are wet for between two to six months and then allowed to completely dry. Timing should coincide with peak shorebird movement between September and April. Initially, maintain existing grazing regime prior to flooding to limit encroachment and biomass of Canegrass and Lignum on mudflats, but avoid grazing while wetland is flooded.

Future Considerations: Consider fencing central-eastern area with tall Lignum stands to protect ibis rookery habitat. Develop a feral animal control program.



At around 230 hectares, Five Oaks Swamp is one of the largest wetlands in the Wah Wah district.

Monitoring: Photo points and aerial imagery could be used to track any changes in the extent and structure of vegetation. Waterbird surveys could also be used to help gauge biodiversity response and support management that maintains the relatively open mudflats, which are central to the existing shorebird 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 for shorebird conservation.

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 feral animal control and potential fencing can be organised as needed with Murrumbidgee Landcare and Riverina LLS.

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