

Report on waterbirds breeding during the environmental flooding of the Wanganella wetlands in the spring/summer of 2020/2021

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Acknowledgements

Many thanks to James Maguire and Anthony Conallin of the Biodiversity, Conservation and Science Unit of the N.S.W. Department of Planning, Industry and Environment. James and Anthony got the environmental water program at Wanganella up and running. The headaches and hurdles of the project were not insignificant.

The management and staff of Australian Food & Agriculture Company Ltd. granted access to Wanganella Station on a regular basis to allow me to monitor the waterbirds. Likewise, Colin McCrabb and the McCrabb family granted access to Avenel. Their generosity permitted me to extend the area to be monitored.

Thanks also to my friend Brian Holden who assisted with his boat and time to ferry me up 8 Mile Creek into Wanganella Station on a couple of occasions.

Lastly, this report would not exist without Patricia Maher's editing skills.

Summary

The Wanganella wetlands have enormous potential. They could serve as an important breeding area for vulnerable, endangered and threatened species. During the 2020/2021 season, a total 73 species of waterbirds or wetland-dependent species were recorded using the wetlands. Thirty-seven of those species were confirmed breeding. Less than a third of the total number of nests were thought to have been successful, although some species had greater success than others. Fluctuating water levels were highly problematic for the breeding waterbirds. This is a challenge that will need to be met if this important area is ever to fulfil its potential.



Discussion

Forty surveys were conducted from 20 September 2020 until 15 March 2021, eight of which were for the Conservation and Science Unit of the N.S.W. Department of Planning, Industry and Environment.

Environmental water started flowing down Forest Creek and into the 8 Mile Creek system in early September 2020. By mid September the wetlands south of Wanganella in 8 Mile Creek were filling. Large numbers of waterbirds started to arrive during the latter part of September and into October, and a big breeding event was imminent.

In October, initially, all was well. A Brolga's nest with two eggs was located on 11 October and the first Pied Stilt's nest was found on 18 October. Many other species started nesting during October and it looked like being a massive breeding event.

However, the situation went awry in November when a stable water level could not be maintained in the creek system for a number of reasons. This wreaked havoc with the nesting waterbirds as a stable water level is crucial during the months of October, November, December and January when they are laying and incubating eggs and starting to raise young. The water continued to fluctuate through November, December and January and although quite a few species did successfully raise young, many species either did not nest or abandoned their nests when the water started dropping. While some species were more successful than

others, overall, I suspect that only 20 to 30 percent of nests were successful. This is unfortunate given that waterbird numbers in eastern Australia have dropped by up to 90 percent¹ since the 1980s, primarily due to the effects of climate change and the competing interests of irrigation. Flooding is now only rarely occurring in all our major river systems in South Eastern Australia — where the majority of our waterbirds breed. They are in dire trouble.

A total 73 species of waterbirds or wetland-dependent species were recorded using the wetlands in the 8 Mile Creek system south of Wanganella from October 2020 to March 2021. Thirty-seven species of waterbirds or wetland-dependent species were confirmed breeding during that period.

This is the first time that the 8 Mile Creek system has received a substantial flow of environmental water.² It is to be hoped that much has been learned by the water management authorities on this occasion, and that the next flooding event will see a more successful outcome.

The natural flood in 2016 was the last time the creek received substantial water. The water dropped away quickly that year and few waterbirds bred.

Breeding was, on the whole, more successful on the east side of the highway, particularly for ducks and cormorants. The water was generally deeper on the east side and did not fluctuate quite as much as the west side due to it being contained at the highway.



¹ Waterbird population has fallen as much as 90 per cent in Australia's east, shows 37-year study <https://www.abc.net.au/news/2019-11-19/drought-and-water-policy-to-blame-for-water-bird-decline/11715412>

² There was small amount of environmental water in the summer of 2019/2020.

Recommendations

While there was some breeding success at Wanganella during this flooding event, it would have been a much better outcome had the water levels been kept stable during November, December and January.

There are two main problems to overcome if the wetlands are ever to reach their full breeding potential:

1. Keeping the water levels stable during the months of November, December and January is paramount. The water should be rising in September and rising slightly in October before stabilising in November, December and January, and then slowly drawing down in February/March.
2. The water levels need to be higher on the west side of the highway in the beds of cumbungi and phragmites if the big colonies of Straw-necked Ibis are ever to nest here again. (Approximately 13,000 pairs nested here in 2010/2011). In my experience, Straw-necked Ibis need sixty to ninety centimetres of water under the reeds or lignum before they will nest. The highest the water reached in the reedbeds was only about forty-five centimetres. Straw-necked Ibis are a keystone species. If the water levels are right for Straw-necked Ibis to breed successfully, the water levels are right for many other waterbird species to breed.

Species that should be specifically targeted at Wanganella wetlands to enable a successful breeding event are:

1. Brolga Vulnerable in New South Wales, Victoria and South Australia.
2. Australasian Bittern Endangered nationally.
3. Australian Painted Snipe Vulnerable in New South Wales. Endangered in Victoria.

All three species were recorded at Wanganella wetlands in the 2020/2021 flooding event and failed to breed successfully. These three species are in dire trouble in the Riverina (and elsewhere). The Wanganella wetlands could play an important role in their survival. With greater awareness of the challenges gleaned in the 2020/2021 season, it should be possible to avoid the crises experienced in the 2020/2021 season. We will only have a truly successful breeding event if that can be achieved.



Records and notes on bird species breeding in the 8 Mile Creek system (Wanganella wetlands) south of Wanganella, October 2020 to March 2021

Plumed Whistling Duck *Dendrocygna eytoni*: Three clutches of young seen, two on the east side of the Cobb highway and one on the west side. An adult on the east side of the highway had hatched ducklings on 4 December and another pair had about 10 small ducklings on 13 December. A pair with about 10 small ducklings were observed on the west side of the highway on 11 December. Thought to have been fairly successful.

Blue-billed duck *Oxyura australis*: At least 20 pairs present. The first bird, a male, was seen near the highway on 1 October, only a few weeks after the water initially arrived. Males were displaying on 22 October and clearly keen to breed. However, it was only a couple of weeks later that the water levels started to fluctuate, and I suspect that breeding did not, for the most part, eventuate. Only a single clutch of five half-grown young with an adult female was seen on the west side of the highway on 14 February. Possibly some other pairs bred successfully but remained undetected as the species is quite shy.

Musk Duck *Biziura lobata*: Possibly six pairs were present. Several males were displaying and calling in late October, clearly intent on breeding. A male was still calling on 12 December on the west of the highway. Thought to have had a low breeding success, with only a single juvenile recorded on 8 Mile Creek in January (next to the highway).

Pink-eared Duck *Malacorhynchus membranaceus*: The first clutch of eggs was seen on 1 November and another five clutches later in November, all in the introduced willow trees on the west side of the highway. The first clutch of ducklings was seen on 3 December, east of the highway. Four clutches of ducklings were seen east of the highway on 13 December, some three-quarters grown. Many nests probably failed to the west of the highway as few young were seen on that side. Around 250 pairs were present, with possibly 20 pairs successfully breeding.

Black Swan *Cygnus*

atratus: About eight pairs nested and most raised some young. Two pairs had five cygnets each on 13 December, east of the highway. Another pair observed had a single cygnet on 13 December, which was riding on a parent's back. Another nest with eggs still had not hatched on 14 February when the water was dropping, and I think was later abandoned.



Australian Shelduck *Tadorna*

tadornoides: A pair with five half-grown young on the east side of the highway on 22 October was the only confirmed breeding record. This species breeds very early as it takes a long time for them to fledge their young. Various other adults were seen on the west side of the highway at times.



Hardhead *Aythya australis*: Up to 200 pairs present but very few successfully bred. A single nest with 11 eggs was seen to the west of the highway on 1 November. The first clutch of small young was seen on the east side of the highway on 7 December and a few other clutches were seen after that. It is thought that only about six pairs successfully bred, mainly on the east side. It is not common to see this species breed — everything needs to be right for a successful outcome.

Australasian Shoveler *Spatula rhynchotis*: Possibly up to 150 pairs present, and 10 or more clutches of ducklings were seen. A male doing a courtship display to a female was observed on 22 October. The first clutch of about 10 small ducklings was seen right beside the highway on 31 October. On 8 November two

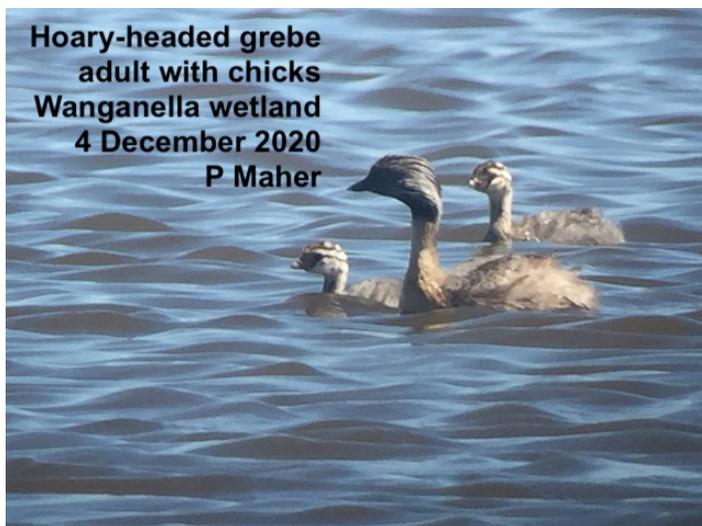
clutches of ducklings were seen east of the highway, one a clutch of 10 and the other with just two. On 13 December about 10 clutches of young were seen, some with up to 10 ducklings, east of the highway. Moderately successful. This species has not bred in the district for many years.

Pacific Black Duck *Anas superciliosa*: Hundreds of birds present at times. Nest with three eggs recorded on the sandhill west of the highway on 27 October. Another clutch of eight ducklings was observed west of the highway on 1 November. Six clutches of ducklings from tiny to half-grown were seen east of the highway on 7 December. More bred on the east side of the highway and were more successful there as the water was deeper and did not fluctuate quite as much as the west side. Overall, moderately successful.

Grey Teal *Anas gracilis*: By far the most common duck that bred this season at Wanganella. Many clutches of young were seen in November/December, particularly on the east side of the highway. So desperate were they to breed that in late October many eggs were being laid in the shallow water. Some clutches were almost full-grown by 8 November. About 15 clutches of ducklings, from tiny to almost full-grown, were recorded on the east side on 7 December. Some late clutches of young were still being seen in February after the water had dropped. At least 2,000 birds were present in open water on the west side of the highway in January, February and March.

Australasian Grebe *Tachybaptus novaehollandiae*: Up to six pairs present, all on the west side of the highway. Three or four pairs may have successfully bred. A few full-grown juveniles were seen west of the highway on 14 February.

Hoary-headed Grebe *Poliiocephalus poliocephalus*: Up to 200 pairs attempted to breed of which about 50 pairs may have successfully raised young. Many nests failed as this species nests in colonies in quite shallow water and is very vulnerable to any drop in water levels. When the water levels started to fluctuate in November and December it wreaked havoc with this species. The first nests with eggs (about eight nests) were seen on the east side of the highway on 22 October. About 15 pairs had small young and about



15 to 20 nests with eggs were seen in the same area on 4 December. A couple of nests were seen on the west side of the highway on 1 November.

Australian Spotted Crake *Porzana fluminea*: The first one was seen on 11 October and many more by late October as the wetland vegetation developed. Breeding had started by 1 November when a nest with six eggs was located in a nitre goosefoot bush. By December they were fairly numerous in the beds of common spike-rush and nitre goosefoot. Up to 15 to 20 birds were being seen whenever I traversed the wetlands and many of these were juveniles, indicating that breeding had been successful. An almost full-grown juvenile was seen on 27 February indicating that some breeding had continued into January. Their short incubation and fledging period helped them avoid the fluctuating water level problem.

Baillon's Crake *Zapornia pusilla*: The first Baillon's Crake was recorded in the beds of common spike-rush to the west of the highway on 18 October. Thereafter more were seen as the swamp vegetation developed. On 28 October, three were flushed in the same area. On 13 November a nest with six eggs was located also in the same area in the common spike-rush. They were flushed in other parts of the wetlands as well during November and December including on the east side of the highway. Up to three or four birds were often flushed at this time in suitable habitat. It is thought that quite a few pairs nested and given their fairly short incubation period they were probably not so badly affected by the fluctuating water levels, and some no doubt managed to raise young.

Purple Swamphen *Porphyrio porphyrio*: Just a few birds were present when the environmental water first arrived in early September. By 12 October at least 20 were seen west of the highway. The first nest was recorded on 22 October and another half dozen or so were seen later in October and November. Many juveniles were seen in December and January. An active nest with five eggs was seen as late as 27 January. Several nests were seen out in the beds of common spike-rush or other similar low vegetation a long distance from the beds of cumbungi and phragmites where this species usually resides. The remains of several birds were seen that I believe had been taken by Swamp Harriers. Many dozens of pairs are thought to have nested and probably had a fair degree of success.

Dusky Moorhen *Gallinula tenebrosa*: Just a few pairs present in the deep creek east of the highway. A nest with five eggs was located in the beds of cumbungi on 8 November and is thought to have been successful. Juveniles were seen in March.

Black-tailed Native-hen *Tribonyx ventralis*: Just a few were present in October and early November. Several hundred birds had turned up by the end of November and early December when the water had dropped and there was green vegetation around the perimeter of the wetlands for them to graze on. Very little breeding activity was detected; just a couple of big juveniles seen on the east side on 13 December. Their favoured breeding localities are the deep lignum swamps, so this locality was not particularly suitable for them in this flooding event. Possibly a few other pairs nested but were not detected. The big congregations had all largely departed by February, probably due to rains further north.

Eurasian Coot *Fulica atra*: Many hundreds of birds were present from October onwards. The first nests were seen on 1 November on the west side. On 8 November six nests were seen along the deep creek on the east side, all with six or seven eggs. Many other nests that had not been laid in were observed. The water levels were starting to fall at this time and it is thought that it prompted many birds to abandon their nests. Only around 10 to 15 juveniles were seen. I believe that most nests failed due to falling water levels in November. It should have been a mass nesting of this species as over a hundred pairs seemed keen to breed.

Brolga *Antigone rubicunda*: The pair that has been at Wanganella for many years had been seen around the small amount of water remaining in the 8 Mile Creek system during August but as the water was getting low, they cleared out before the environmental water arrived. On 20 September as the wetlands were filling, they returned. They hung around the highway for a while before disappearing again. On 1 October I



located them on private land to the east of the highway. I suspected they would nest here so I stayed away to give them a chance to lay eggs. On 11 October I located the nest with two eggs. On 22 October Anthony Conallin (DPIE) and I set up a remote video camera so we could watch the nest's progress. The camera was too far away and on 27 October I moved it a bit closer. On 1 November I went in to adjust the camera as it was malfunctioning — only to be greeted by a brolga chick that swam over to me mistaking me for one of the parent birds. I adjusted the camera and departed quickly. A couple of days later they abandoned the other egg. The incubation period for brolgas is 32 days so they probably already had eggs

when I first located them on 1 October. It is noteworthy how quickly they nested after having only returned on 20 September. The chick was growing well, and all was looking good up until around 19 November when, seemingly, they disappeared and have not been seen since. A colleague, Brian Holden, and I went a long way up the creek by boat searching for the broлга family in January but could find no sign of them. I can only assume that something happened to the chick and the adults departed.

So, despite all the effort put in with environmental water down the Forest Creek and backup water pumped from Billabong Creek, and substantial fox baiting, things still went awry, which is nothing short of a tragedy. There are very few pairs of Broлга left in the district and very few chicks have been raised in the last forty years. Time is rapidly running out for this species in southern Australia.



Broлга chick
Wanganella wetland
1 November 2020
P Maher

Broлга family video. <https://www.youtube.com/watch?v=XcdZEL7obhk>

Royal Spoonbill *Platalea regia*: Two pairs had started to lay eggs in their nests in the willows on the west side on 23 November. These were subsequently abandoned for reasons unknown. Another five pairs nested in a nearby willow in company with Little Pied Cormorants in November. Three nests had well-grown young on 27 January and later fledged. The other two nests were less advanced and were abandoned by my next visit, so only three nests out of seven seemed to have been successful. Up



Royal spoonbill
Wanganella wetlands
27 January 2021
P Maher

to 15 to 20 adults were feeding about the swamp on occasions, often in company with Yellow-billed Spoonbills.

Australian White Ibis *Threskiornis moluccus*: A few pairs were starting to construct nests in the beds of phragmites on 18 October. By 1 November about 20 to 30 pairs had nests with eggs in the phragmites.

Later, about another 10 pairs nested in the willow trees and had half-grown young on 27 January. It was hoped that the small colony of White Ibis nesting in the phragmites might encourage the Straw-necked Ibis to nest but this did not happen. Up to 50 White Ibis were feeding around the wetlands from September through February.



Australian Little Bittern *Ixobrychus dubius*: First detected on 12 November when four males were calling in the beds of phragmites west of the highway. Males continued to call sporadically during November and December depending on the water levels. If the water levels were rising or stable, the bitterns would be calling, and if they were dropping, the birds lost interest. A nest with a single egg was located on 30 November indicating that breeding had just started, given four is the normal clutch. It is thought that up to 10 pairs attempted to breed in the beds of phragmites and cumbungi on the west side of the highway, judging by the number of males calling. Probably had a reasonable breeding success despite the fluctuations in water levels in November/December. Being a much smaller bird than the Australasian Bittern it has a much shorter incubation and fledging period, so does not require the long periods of stable water levels that the Australasian Bittern requires.

Little Pied Cormorant *Microcarbo melanoleucos*: Up to 90 pairs nested. About 80 pairs nested in river coobas in the deep creek east of the highway, and about 10 pairs in a willow tree west of the highway (eggs recorded on 26 December). The first nests with eggs (some with up to six eggs) were seen on 8 November east of the highway. About 30 nests had, for the most part, about half-grown young on 13 December, many had fledged by mid January. Thought to have been largely successful.

Great Cormorant *Phalacrocorax carbo*:

Like Little Black Cormorant, more Great Cormorants turned up in January with the proliferation of the fish population. At least 100 birds were present on the east side in late January. A few pairs were nesting low down in dead trees on the east side on 8 January. The one nest that was checked on that day had a single egg. On 31 January the adult was still sitting tight on the same nest. It's not known whether there was a successful outcome.



Darter *Anhinga novaehollandiae*: About six pairs nested in the deep creek on the east side of the highway in company with Little Pied Cormorants. The first nest was seen on 13 December. They nested quite late due to it taking a while for the fish population to breed up — the creek had been dry until 12 months ago. This species is thought to have been quite successful. This is the first time this species has bred at Wanganella wetlands to my knowledge.

Pied Stilt *Himantopus leucocephalus*: The first birds started to turn up in mid to late September. By mid October about 300 pairs were present. The first nests were recorded on 18 October. On 27 October about 18 nests were seen, most with three or four eggs, and the following day another six nests were seen mostly with four eggs, all on the west side of the highway. Another 10 nests with eggs were recorded on

the east side on 8 November. A mass breeding event was underway by this stage. The first juveniles were seen on 23 November but were probably present prior to this. Although quite a lot of young fledged it is thought that many nests failed as the percentage of young to adults was only ever about 10 to 20 percent. If most of the nests had been successful, the percentage of young to adults should have



been much higher. The water levels started to drop during November, which upset the incubating adults as

the nests were in very shallow water. Most of the adults had departed by early February, probably due to big rains further north.

Masked Lapwing: A few pairs were around the wetlands from September onwards with numbers building up as the water started to drop after November. A few full-grown juveniles seen with adults in December. They were always quick to chase Swamp Harriers whenever one appeared, which would also indicate breeding. They are usually one of the first birds to nest in the late winter or early spring, which is what they seem to have done on this occasion. As the wetlands dried back in February, up to 50 Masked Lapwings were present on the west side.

Red-kneed Dotterel *Erythronys cinctus*:

The first Red-kneed Dotterels started to appear in early October. By 12 October around 50 were recorded on the west side.

The first nests (three) with eggs were recorded on 27 October. Another nest with eggs was seen on 1 November and another six nests with eggs were seen on 23 November, all on the west side of the highway. Most nests had four eggs and



they were often nesting in close proximity to Pied Stilts. It is thought that around 80 pairs of Red-kneed Dotterels attempted to nest at Wanganella in this flood event. Again, many nests are thought to have failed when water levels started to fluctuate in November. The percentage of young to adults was only about 10 to 20 percent although that still amounted to quite a few young fledged. Big numbers were still present during February with close to 100 birds (adults and juveniles) recorded on 12 February on the east side and a similar number on the west side on 26 February. The juveniles appear to gain their adult plumage at a very young age, so it is difficult to tell the juveniles from the adults after a month or so. Over 200 birds were present on the west side when the swamp was drying back in March.

Whiskered Tern *Chlidonias hybrida*: The first birds turned up around 1 October and numbers built up quickly. By the end of October, 500 or more birds were present at times in the shallow floodwater on either the east or west sides of the highway. The fluctuating water level was a disaster for this species. On three occasions they attempted to nest and on each occasion the water dropped away from under them, and they abandoned their nests.

On 29 October dozens of pairs were building nest platforms on the east side, with the males doing display flights with tiny fish in their bills before landing next to the female on the nest platform and doing a fascinating courtship dance. By 8 November the water had dropped about fifteen centimetres and all nesting attempts had been abandoned. Later in November some birds tried again to nest on the west side of the highway. A dozen or more pairs were building nest platforms, but they were again thwarted when the water dropped. After that some birds went back on the east side and had another go. On the 4 December I located about six nests with eggs (this was the first time they actually laid eggs) but as the nests were in shallow water and the water was dropping fast, they had no chance of success. These nests were in a mixed colony with Hoary-headed Grebes whose nests also failed. These species usually nest together (sometimes in colonies of several hundred pairs) in water often less than 60 centimetres deep as they have to anchor their floating nests to some sort of emergent vegetation, so the nests won't blow away. This makes them very vulnerable to any drop in water levels at this crucial period. What could have been a mass breeding event for this species came to nothing. In late December there was a big drop in water levels before it rose again about a week later. This completely disrupted the food chain and whatever the Whiskered Terns were feeding on was no longer there and they completely abandoned the area.



Swamp Harrier *Circus approximans*: A pair nested in the cumbungi on the east side of the highway in October. Two recently fledged juveniles were near the nest site on 6 December. In February, three dark juveniles were hunting together over the beds of phragmites and cumbungi so it is possible that three young were raised. Besides the resident pair of Swamp Harriers that bred, at various times there were other Swamp Harriers hunting over the wetlands; however, only the one pair bred to my knowledge.



Whistling Kite *Haliastur sphenurus*: One pair nested in the treed section of 8 Mile Creek on the east side and successfully raised a couple of young. Up to 10 birds were scavenging around the wetlands as they were drying back in February. This species is always associated with breeding waterbirds and wetlands, scavenging dead young birds and fish as well as opportunistically taking whatever young waterbirds they can catch.

Magpie Lark: This species is included on the basis that they were all feeding in or around the swamp and they also require damp mud to build their nests. At least 50 birds were present from about October onwards and were still there at the end of February. A minimum of two pairs nested, one in the willows and another in a single river redgum on the west side. Probably other pairs nested in the river coobas along the deep creek on the east side. A big mob of 50 roosted in native willows on the big sandhill west of the highway and flew out to feed in the swamp in the early morning.

Golden-headed Cisticola *Cisticola exilis*: A pair was building a nest in the phragmites on 12 October. Strangely enough they disappeared soon after this and none was seen or heard again until early February. The nest was thought not to have been successful. Why they disappeared when the habitat looked ideal for them, I cannot say. They have become a fairly scarce species in the district over the last 20 years.

Australian Reed Warbler *Acrocephalus australis*: The amount of calling that was going on in the beds of cumbungi and phragmites suggested at least 100 pairs were present. The first two nests were located on 1 November, each with three eggs, in the beds of phragmites. Rather surprisingly it took quite a while to find these two nests. Many birds must have had second clutches as there were still nests with eggs in January. As the species is not so affected by fluctuating water levels, they most likely had a great breeding season and hundreds of young would have fledged. Also, tiger snakes, which like to prey on the nestlings, had not yet built up in sufficient number to have an effect on the numbers of fledging young. The reed warblers were still calling right up until there was a big drop in the water levels in February when they stopped calling almost overnight.

Little Grassbird *Poodytes gramineus*: Probably not as numerous as the Australian Reed Warbler but still there were dozens of pairs nesting in the nitre goosefoot bushes. The first nests with eggs were recorded on 22 October. Another nest with eggs was recorded on 8 November and many were feeding young in nests in November and December. Still breeding in January. Like the reed warblers they had a brilliant breeding season and many young were fledged. Juveniles were feeding in the open in drying-out mud in late February and March.

Fairy Martin *Petrochelidon nigricans*: Up to 50 birds feeding over the swamp at times with Welcome Swallows and Tree Martins. At least a dozen pairs nested under 8 Mile Creek Bridge.

Welcome Swallow *Hirundo neoxena*: Hundreds of adults and juveniles were feeding over the swamps, particularly from December onwards. A few pairs nested under the bridges at the highway with the Fairy Martins.



Waterbirds or wetland-dependent species recorded in the 8 Mile Creek system (Wanganella wetlands), September 2020 to March 2021, which were not confirmed breeding.

Freckled Duck *Stictonetta naevosa*: Eight birds were first seen on 5 December and a maximum of 14 on 8 December on the deep creek just east of the highway. They have been about in varying numbers since that time, with about seven still present on the west side of the highway on 14 February.

Some of the first males to turn up still had some red at the base of the bill, which indicates breeding condition, however I think they had already bred, or at least attempted to breed somewhere in the inland. The water had probably dried back in the inland and they were seeking refuge. There was no indication that they were interested in breeding at Wanganella



this season although they have attempted to breed here in the past.

Australian Wood Duck *Chenonetta jubata*: Up to 100 birds present at times, particularly later when the water started to drop and there was some green forage for them to graze on around the perimeter of the wetland. Breeding was not recorded. This species requires big hollows to nest in, which are largely lacking at this site.

Chestnut Teal *Anas castanea*: A pair was hanging around the highway in October/November but breeding was never confirmed. Also, a pair was observed during February when the water started to drop.

Great Crested Grebe *Podiceps cristatus*: A single adult bird in breeding plumage was recorded in the deep creek on the east side on 4 December. The same bird was seen about a week later further upstream. It did not find a mate and there were no more sightings. This species needs beds of water plants to nest in, and this type of vegetation may not have developed sufficiently for this species to nest. This is the first record of this species in these wetlands since 2012. There were multiple records in the natural flooding event of 2010/2011. Great Crested Grebe has not been recorded breeding here since the early 1980s to my knowledge.

Buff-banded Rail *Hypotaenidia philippensis*: One bird was flushed near the beds of phragmites on the west side on 11 December. This species is secretive and their nests difficult to locate. It is quite possible that there were more in the wetlands, and it is likely that they bred around the phragmites but difficult to confirm. No others have been seen to date.

Spotless Crake *Zapornia tabuensis*: The only records were two birds calling in the beds of phragmites on 3 December. By their behaviour they were breeding or about to breed at this time. The nest is extremely difficult to find due to the dense vegetation they nest in and was not actively sought. Undoubtedly there were quite a few pairs through the beds of cumbungi and phragmites, and they probably bred successfully but difficult to confirm. Possibly some juveniles will be seen when the water dries back. This species has become scarce in the district in the last 20 years.

Yellow-billed Spoonbill *Platalea flavipes*: Up to 15 birds were feeding in the wetlands from October onwards, mainly on the west side, often in company with Royal Spoonbills. The species is not a colonial nester and usually nests singularly away from other waterbirds. They would be more likely to nest in the river redgums along the nearby Billabong Creek but as there was no flood in that system it is unlikely any bred on this occasion. No juveniles were seen.

Straw-necked Ibis *Threskiornis spinicollis*: Up to 1,000 birds were present during September, October and November. At times in September and October they were hanging around the beds of phragmites and appeared interested in breeding, but this did not happen. In my experience they need at least 60 centimetres of water under the reeds before they will nest but this level was never attained. Later in November and early December, hundreds were feeding out in the shallow floodwater on both sides of the

highway but showed no interest in breeding. The big flocks departed in December, probably looking for breeding opportunities in the Lowbidgee. A few juveniles turned up in February and March, probably from the Lowbidgee breeding colony.



Glossy Ibis *Plegadis falcinellus*: The first sighting was on the east side on 11 October when around 50 birds were seen. A maximum of 80 were seen on the west side on 1 November. They were hanging around the beds of phragmites at this time and were probably looking for breeding opportunities. If the Straw-necked Ibis had nested, then the Glossy Ibis would probably have followed suit as happened in the natural flood of 2010/2011. Unfortunately, the water was never deep enough in the beds of phragmites and cumbungi for the Straw-necked Ibis to form a breeding colony, so the Glossy Ibis also lost interest. Small numbers of Glossy Ibis lingered around the wetlands during November and December, most likely non-breeding birds, but the big flocks moved on, probably looking for breeding opportunities in the Lowbidgee. One bird was still present on 27 February.

Australasian Bittern *Ixobrychus dubius*: The first sighting was a single bird seen on the west side of the highway on 20 September. Not seen again until 28 October, by which time the bird had become very secretive. A male was first heard booming in the beds of phragmites west of the highway on 12 November. Called sporadically after that depending on whether the water was rising or falling until 25 December. Prior to 25 December he was calling before sunrise along with Australian Little Bitterns. There was a big drop in water levels after the 25 December and the bird stopped calling. The water levels were eventually reinstated a couple of weeks



later, but the damage had been done, and the bird never called again. A single Australasian Bittern was flushed on two occasions in late January and early February and thought to be the same bird. I only saw or heard a single bird from September through to February so I'm uncertain if there was ever a pair present.

The species has become so scarce that this is a possibility. There was no evidence that the Australasian Bittern bred here during this flooding event, despite being keen to do so — as evidenced by his calling.

Nankeen Night-Heron *Nycticorax caledonicus*: The first birds turned up in October, roosting in the native willows on the edge of the big sandhill on the west side. During November and early December at least 30 birds were roosting in the introduced willows out in the floodwater but they did not nest. Some birds, I believe, were feeding on mice that were starting to build up in numbers around the perimeter of the swamp. (Freshwater crayfish are the favoured food of Nankeen Night-Herons). Most night-herons departed in December, probably heading to the Lowbidgee in search of breeding opportunities.

White-necked Heron *Ardea pacifica*: Good numbers were recorded all through October and November feeding in the shallow floodwater on the west side of the highway. Numbers probably peaked on 23 November when around 100 birds were feeding in the shallow floodwater. Frogs were in a breeding frenzy at this time and the shallow water would have been full of tadpoles — a favourite food of this species. They mostly departed during December, probably in search of somewhere to breed as they mainly breed in flooded river redgum, a habitat not available to them here. They had not yet attained breeding plumage in November.

Great Egret *Ardea alba*: Up to 10 birds were feeding about the wetlands, mainly in shallow floodwater on the west side from September onwards. Numbers probably peaked on 23 November when around 20 were recorded feeding on the west side. Some were coming into breeding plumage at this time. They were, for the most part, gone by early December. No doubt to look for somewhere to breed. This species mainly breeds in flooded river redgums. Up to 10 or so turned up again in February. These birds were moulting out of breeding plumage and had probably come from the small colony that nests in Deniliquin.

Intermediate Egret *Ardea intermedia*: The first was recorded on 12 October and a few birds were present through October and November, all on the west side. A maximum of six were seen on 23 November feeding with a mass of other egrets and herons in the shallow floodwater. Some of these birds were almost in full breeding plumage and looked stunning. They departed soon after, probably heading for the Lowbidgee in search breeding opportunities. In the 1980s and 1990s, this species bred in colonies of many hundreds of pairs in flooded river redgums in the Lowbidgee and along the Lachlan River, as well as the Murray River around Mathoura. Most, if not all, of these colonies have not been active for many years. A couple of Intermediate Egrets, not in breeding plumage, turned up again in February.

White-faced Heron *Egretta novaehollandiae*: Mostly just a few recorded on each visit from October to December. Became much more numerous in January when up to 20 birds were present, and more so by March, when up to 40 were present. This species nests singularly away from other waterbirds so nests are hard to find. It is possible that a pair or two nested along the treed section of 8 Mile Creek, east of the highway, but was not confirmed.

Little Egret *Egretta garzetta*: The first Little Egret was seen on 20 September and up to two birds were seen on occasions during October. This species is only rarely seen in this district and usually only solitary birds. Historically, a few pairs nested with the colonies of Great and Intermediate Egrets when they nested in the redgum forest about Mathoura in the 1980s and 1990s but these colonies no longer exist. A few pairs also nested with the egret colonies in the Lowbidgee and along the Lachlan River between Booligal and the Great Cumbung



Swamp but I do not know if any of these breeding colonies are extant. My guess is they were heading for the Lowbidgee where there was some environmental flooding in the river redgums, where this species prefers to nest. Three species of egret, Great, Intermediate and Little, were recorded on the west side on 23 November. No Cattle Egrets were recorded during this flood event although they have been seen around Wanganella in the past.

Australian Pelican *Pelecanus conspicillatus*: A couple were usually present from October onwards. Like the cormorants, numbers gradually built up as the carp population increased. By late January at least 100 birds were present on the east side, rounding up the carp with the Great and Little Black Cormorants.

Little Black Cormorant *Phalacrocorax sulcirostris*: A few started to turn up in November with 20 seen on the west side on 23 November. As small carp became plentiful in the creek system, more started to arrive. In the early morning on 30 January, at least 300 birds flew from the west side of the highway (where they had roosted) over to the east side where they were feeding. Given that this species likes to nest high up in

trees standing in water, it is unlikely they will nest here. River redgum forest is the preferred breeding habitat.

Red-necked Avocet

Recurvirostra novaehollandiae:

On 12 December a pair turned up on the west side. The following day four birds were recorded on the east side, which probably included the pair seen the previous day. A flock of eight birds turned up later in January on the east side and stayed for a couple of weeks. Another four birds turned up in March on the west side and stayed for at least a week. To my knowledge, this species has not bred in the district for close to 30 years.



Red-capped Plover *Charadrius ruficapillus*:

On 24 December two birds, an adult and an immature, were seen on the east side feeding with Sharp-tailed Sandpipers. In late January another single immature bird was seen in the same general area. This species primarily breeds in saline areas and would not be expected to breed in this habitat.



Black-fronted Dotterel *Elsayornis melanops*: A pair was seen on several occasions in November in the same area where there was a mass nesting of Pied Stilts and good numbers of Red-kneed Dotterels on the west side. They did not nest, and none was seen again until February when another pair turned up when the water was drying back. At least eight observed in late March when the water was drying back.

Prefers to breed in sandy areas, at times some distance from water. In the past they nested on sandbanks along the Edward River.

Australian Painted Snipe *Rostratula australis*:

Things did not go well for this threatened species. On 12 November a single bird was flushed from beds of common spike-rush on the west side. Neither this bird, nor any others, could be relocated at this locality despite thorough searching over the next few weeks. No other sightings were had until a dead male, with a broken wing, was located on the east side on 4



December. As there was a fence about

150 metres away, it had probably hit the fence at night — the species is largely nocturnal. No other sightings were had until an adult female was flushed on the west side on 26 December. This bird was also

injured and could only just fly and was caught by hand. It also had an injured wing and I suspect it too had hit a fence at night — again, there was a fence nearby. I released the bird but doubt it would have survived. The wing was not



broken but clearly damaged. On 26 February a healthy male was detected in a drying out nitre goosefoot swamp on the east side. Painted Snipe breed in trios, one female with two males, and it seems possible that this male may have been the sole surviving member of the trio. There have been few sightings of this species anywhere in Australia since the wet years of 2010/2011.

Sharp-tailed Sandpiper *Calidris acuminata*:

First birds seen on 18 October, then present in varying numbers from around 10 to 1,000 birds until at least late March. The highest numbers were recorded on the east side when the water started to dry back in January. Still hundreds present on the west side in early March. Breeds in Siberia.



Curlew Sandpiper *Calidris ferruginea*:

Three birds were first detected on the east side on 4 December feeding with several hundred Sharp-tailed Sandpipers. One or more of these three were seen into February. One bird recorded on the west side in late December. Breeds in Siberia.

Red-necked Stint *Calidris ruficollis*: Two birds feeding with Sharp-tailed Sandpipers on the west side from 11 December for at least a week. A single bird seen on 3 March when the water was drying back, probably on migration. Breeds in Siberia.

Buff-breasted Sandpiper *Calidris subruficollis*: One bird located on 14 March, mostly keeping to itself but in the general vicinity of Red-kneed Dotterels. The bird subsequently flew and was relocated about two hours later feeding with Sharp-tailed Sandpipers and Red-kneed Dotterels. The bird was again located the following morning feeding with the sandpipers and dotterels. This species breeds in the high Arctic regions and, for the most part, winters in South America. A small number occasionally turn up in Australia. This is the first record of this species in the Riverina and possibly the first record away from the coast in New South Wales.



Buff-breasted Sandpiper video

<https://www.youtube.com/watch?v=eulqDVERswE>

Pectoral Sandpiper *Calidris melanotos*:

A single bird feeding with Sharp-tailed Sandpipers on the west side from 11 December until at least the end of December. On 27 February, two birds were located feeding in the drying out mudflats on the west side with Sharp-tailed Sandpipers, Wood Sandpipers and Red-kneed Dotterels. There was quite a size difference between the two pectorals, and as they often fed together, I suspect they were a pair. It is many years since two have been observed together in the Riverina. Breeds in Siberia and North America. A small number make it to Australia every year.



Pectoral sandpiper (rear) & sharp-tailed sandpiper
Wanganella wetland
25 December 2020
P Maher

Latham's Snipe *Gallinago hardwickii*: First recorded on 12 October when four were flushed and present in varying numbers right through to the end of February. Six were seen on 23 November and a maximum of 10 was seen on 12 December. All sightings were on the west side apart from a single bird seen on the east side on 26 February in a drying out goosefoot swamp. This is the most seen in the district since the wet years of 2010/2011. Now a scarce bird in the Riverina. Breeds in Japan.

Greenshank *Tringa nebularia*: A single bird was seen on one occasion on the west side in late November. Breeds in Siberia.

Wood Sandpiper *Tringa*

glareola: First seen on the east side on 13 December feeding with Sharp-tailed Sandpipers. Probably the same bird that moved over to the west side in late December and was seen there on several occasions feeding with flocks of Sharp-tailed Sandpipers and a single Pectoral Sandpiper. On 27 February and 3 March, as the



Wood sandpiper
Wanganella wetlands
3 March 2021
P Maher

water was drying back and there was much exposed mud, four Wood Sandpipers were recorded on the west side in company with other sandpipers. Possibly the highest number of this species I have recorded together in the district. Breeds in Siberia.

Marsh Sandpiper *Tringa stagnatilis*: A single bird was feeding on the mudflats on the east side with big flocks of sharp-tailed sandpipers from late January and into February. Breeds in Mongolia.

Silver Gull *Larus novaehollandiae*: A single bird was seen on the east side on 26 February when the water was drying back.

Australian Gull-billed Tern *Gelochelidon macrotarsa*: Six birds turned up the west side on 26 January and hung around for a couple of days. This species often hunts for reptiles over the dry plains. It formerly bred in big colonies on the dry saltbush plains south of Maude³ (Hobbs 1961) as well as on islands in floodwater along the Lachlan River in the 1980s. It has not bred in the Riverina since the 1990s to my knowledge.

White-bellied Sea-Eagle *Haliaeetus leucogaster*: An adult pair was hanging around in September and early October but disappeared after that and did not return until February. An immature bird, which by its plumage was two or three years old, also turned up in February when the swamp was drying back. I suspect the adults went back to the Murrumbidgee River in October to try to nest as there is nowhere suitable for them to nest around the Wanganella wetlands. They generally need a big river redgum tree to nest in. They could nest on the nearby Billabong Creek but I don't believe they have done so yet. All the White-bellied Sea-Eagles seen at Wanganella most likely came from the Murrumbidgee River where there is a small population.

Tree Martin *Petrochelidon nigricans*: Thousands of birds were feeding over the swamps at times in late November and December. Many of these were juvenile birds. This species clearly had a good breeding season, probably to the north of here. None nested in the Wanganella wetlands to my knowledge.

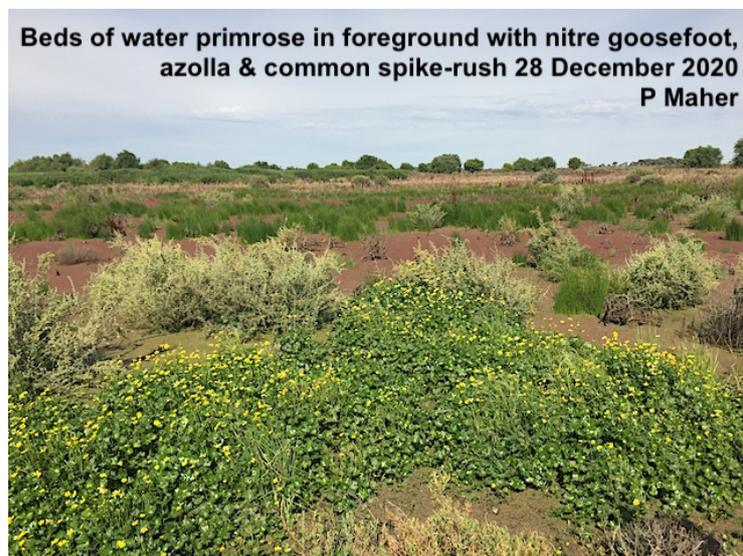


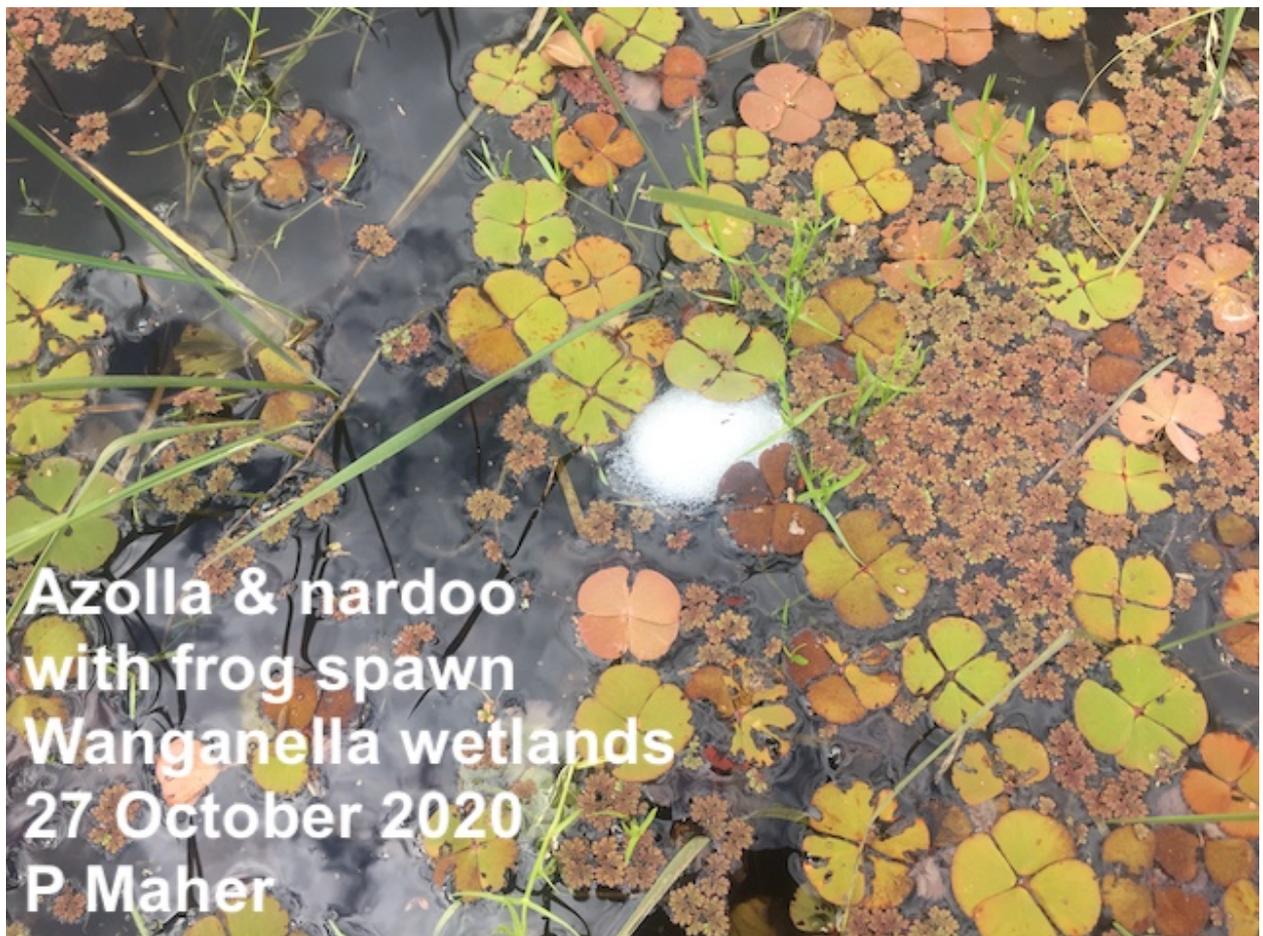
³ Hobbs, J. Birds of South-West New South Wales, The Emu, 1961, RAOU.



Water plants at Wanganella wetlands cited in the notes

- Common nardoo *Marsilea drummondii*
- Red azolla *Azolla filiculoides*
- Cumbungi *Typha orientale*
- Phragmites (common reed) *Phragmites australis*
- Common spike-rush *Eleocharis acuta*
- Lignum *Muehlenbeckia cunninghamii*
- Nitre Goosefoot *Chenopodium nitrariaceum*
- Common water-milfoil *Myriophyllum propinquum*
- Water Primrose *Ludwigia peploides* ssp. *montevidensis*





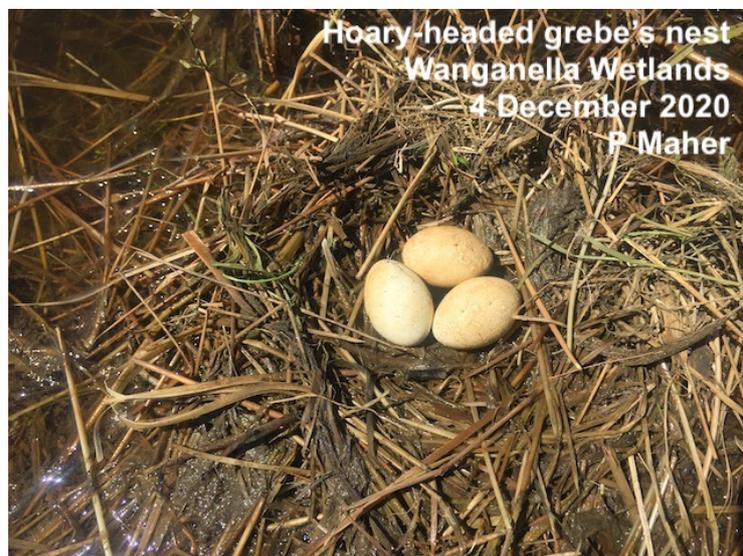
Some nests, eggs and young of waterbirds at Wanganella wetlands September 2020 — February 2021













Whiskered tern's nest
Wanganella wetlands
4 December 2020
P Maher



Nesting colony of little pied cormorants
& royal spoonbills Wanganella wetland
26 December 2020
P Maher



Royal spoonbill's nest
Wanganella wetland
26 December 2020
P Maher





**Female peregrine falcon hunted regularly over
Wanganella wetlands
30 November 2020
P Maher**

