

Byron Wetlands and Vallances Road Avifauna Survey



Black-necked Stork, Byron Wetlands. Photo: Bruce McNaughton

Summary Report 2021

This report has been commissioned by Byron Shire Council.





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Marsh Sandpipers, Byron Wetlands. Photo: Bruce McNaughton

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1.0 Introduction

The Byron Bird Buddies (BBB) has supplied Byron Shire Council (BSC) with avifauna monitoring reports since 2008. As with the previous reports, this 2021 Summary continues to document the results of monitoring the avifauna populations at Byron Wetlands (Byron Bay) and Vallances Road STP (Mullumbimby) so as to observe the trends in bird diversity and populations at both sites. This Summary Report provides a brief breakdown of the BBB 2021 survey results only. Data collected from the surveys is recorded in Spreadsheet format. (See Spreadsheet pdf attached).

1.1 Background

Byron Bird Buddies (BBB) is a not-for-profit organisation and a locality group of Brunswick Valley Landcare Inc. BBB undertakes community avifauna education, monitoring and conservation activities within Byron Shire and extends the education program into surrounding shires as required.

1.2 Byron Wetlands

The construction of the West Byron Sewage Treatment Plant (STP) commenced in 2001. Prior to construction, the site was typically low lying coastal plain comprising paperbark swamp forests, sedge and fern lands. The wetlands now comprise a number of settling ponds with one pond (Cell H) set aside specifically for threatened avifauna species, migratory waders and regionally significant species. The legislated management requirements for Cell H were established to ameliorate ecological losses associated with the development of the STP. A variety of water levels, plant diversity and monitoring measures are required to maintain habitat diversity and address any deleterious changes in conditions of Cell H. The management of Cell H is outlined in West Byron Wetlands “Cell H” Management Plan Feb 2006.

1.3 Vallances Road

Byron Shire Council purchased land at Vallances Road in 2006 for the development of the Mullumbimby Sewage Treatment Plant. Since purchase, BSC have extensively re-vegetated the site with native plant species and regular weed management is being undertaken. The re-planted areas are now well established. Farmland at the site is agisted for cattle grazing, and the paddocks are managed by the leaseholder.

1.4 Objectives

As for the previous reports the objectives continue to be:

- To identify all known bird species utilising the study sites
- To count waterbird and shorebird numbers
- To identify avifauna species in the NSW Threatened Species conservation Act (1995)
- To identify shorebirds covered by International Agreements, such as the JAMBA, CAMBA & ROKAMBA agreement with Japan, China & Korea
- To identify breeding activity
- To record survey findings in spreadsheet format and provide reports to BSC.

2.0 Field Survey Methods

2.1 General - Byron Wetlands and Vallances Road

BBB conducted 6 surveys at both sites during 2021. The surveys commenced at Vallances Rd and Byron Wetlands in January and February consecutively. The surveys were divided into morning and afternoon monitoring, with an hour of nocturnal survey conducted at each site during two of the afternoon surveys. Survey duration was generally 4 hours. As with past surveys, observations were recorded by traversing the tracks marked on the maps. (See **Figures 1 and 2** on page 19).

Factors affecting access to routine survey paths meant that some surveys were only partial surveys. Reasons for limited access includes flooding of paths (Byron Wetlands), cattle grazing (Vallances Rd), and Covid-19 restrictions (Byron Wetlands).

Observations from RBB have also been included in the spreadsheet data, with permission.

Survey details are outlined in Table 1. (Byron Wetlands) and Table 2.(Vallances Road)

2.2 Date, time and total hours for 2021 Avifauna surveys.

Table 1. Byron Wetlands

Byron Wetlands Avifauna Surveys 2021 - Date, Time and Total hours summary								
Ref No.	Date	Time	Who	Survey Duration in hours				
				Diurnal	Nocturnal	Call back	Spotlight	Total hours
1	09/02/2021	16:00-20:00	BBB	3	1	No	No	4
2	20/04/2021	08:00-12:30	BBB	4h 30m				4h 30m
3	01/07/2021	14:00-18:30	BBB	3h 30m	1	Yes	Yes	4h 30m
4	03/08/2021	08:00-14:00	BBB	6				6
5	09/11/2021	14:00-19:00	BBB	5				5
6	20/11/2021	08:30-10:30	BBB / Snipe Count	2				2
7	07/12/2021	08:30-11:30	BBB	3				3
	Total Hours			27	2			29

Table 2. Vallances Road

Vallances Road Avifauna Surveys 2021 - Date, Time and Total hours summary								
Ref No.	Date	Time	Who	Survey Duration in hours				
				Diurnal	Nocturnal	Call back	Spotlight	Total hours
1	11/01/2021	09:30 12:00	June Harris	2h 30m				2h 30m
2	12/01/2021	15:00-19:00	BBB	4				4
3	02/03/2021	07:00-11:00	BBB	4				4
4	18/05/2021	14:00-18:30	BBB	3h 30m	1	No	No	4h 30m
5	13/07/2021	08:00-13:30	BBB	5h 30m				5h 30m
6	28/09/2021	14:00-18:30	BBB	3h 30m	1	No	Yes	4h 30m
7	24/10/2021	09:00-12:00	BBB / Bird Week	3				3
8	02/11/2021	07:30-12:00	BBB	4h 30m				4h 30m
9	17/11/2021	08:00-13:00	RBB	5				5
Total Hours				35h 30m	2			37h 30m



Black-shouldered Kite, Vallances Road. Photo: Bruce McNaughton

3.0 Summary of Byron Wetlands Survey Results

3.1 General Observations

A total of 122 bird species were identified between 09/02/2021 & 07/12/2021. This is 38 species fewer than the year 2020 and 45 species fewer than 2019. In fact, the total avifauna species results for 2021 is the lowest number of species ever recorded at Byron Wetlands since survey data began to be collected by BBB in 2008. The recorded Total of Survey hours were fewer than the year 2021 compared with 2020 and 2019. (Which were 55.15 and 77 hours respectively). **The data recorded for the year 2021 was from the BBB survey results only. No other data, such as e-bird or RBB & BLNR findings were recorded.**

New Species: No new species identified.



Latham's Snipe, Byron Wetlands. Photo: Jan Olley



Azure Kingfisher, Byron Wetlands. Photo: Cary Lewis

Table 3. provides a breakdown of **avifauna species into family groups at Byron Wetlands.**
Previous years data is summarised and tabled.

Family Group No	Family	9/2/2021 - 7/12/2021	15/01/20 29/12/20	15/1/19 26/12/19	20/01/18 25/11/18	07/01/17 20/12/17	Total Species for site since 2000
1	Mound-Builders & Quails	1	1	1	3	2	4
2	Swans, Geese, Ducks & Grebes	6	9	11	9	11	17
3	Pigeons & Doves	5	9	7	5	9	12
4	Frogmouths, Nightjars & Swifts	1	2	2	3	3	4
6	Frigatebirds & Cormorants	4	5	5	4	5	7
7	Hérons, Ibis, Spoonbills & Allies	10	15	15	12	13	17
8	Birds of Prey	7	11	11	10	11	20
9	Brolgas	1	1	0	0	0	1
10	Crakes, Rails & Gallinules	4	8	8	6	7	11
11	Shorebirds	6	8	13	8	9	27
13	Gulls & Terns	1	2	6	2	3	8
14	Cockatoos & Parrots	5	10	8	7	6	12
15	Cuckoos	8	8	9	6	6	10
16	Owls	0	0	1	0	0	3
17	Kingfishers, Rollers & Bee-eaters	6	6	5	5	6	6
18	Pittas, Treecreepers	0	0	1			1
20	Fairy-wrens	3	3	3	3	3	3
21	Scrubwrens, Allies & Pardalotes	7	8	8	6	4	10
22	Honeyeaters	11	11	12	11	13	13
23	Quail-thrushes & Allies	1	1	1	1	1	1
24	Cuckoo-shrikes & Trillers	3	5	4	3	4	5
25	Whistlers & Shrike-thrushes	6	6	6	6	6	6
26	Woodswallows	1	1	1	2	1	3
27	Magpies & Butcherbirds	5	5	5	5	5	5
28	Fantails	3	3	2	2	3	3
29	Crow	1	1	1	1	1	1

30	Flycatchers & Monarchs	3	6	4	3	4	7
31	Robins, Old World Warblers & White-eyes	5	6	8	6	7	9
32	Swallows & Martins	3	3	3	3	3	3
33	Thrushes, Starlings, Mynas & Flowerpeckers	2	2	2	2	1	4
34	Finches, Mannikins & Sparrows	2	3	3	3	3	4
35	Pipits, Wagtails & Others	1	1	1	1	1	3
	Total Species	122	160	167	138	151	240
	Total No. of Family Groups = 32						
	No of Surveys per year *	7	16	23	12	19	

*NB: Surveys were recorded from eBird, U3A, BLNR & RBB, as well as individual birdwatchers during 2017, 2018, 2019 & 2020, but not 2021.



3.2 Observations of avifauna species at Byron Wetlands include terrestrial birds, shorebirds and water birds

Terrestrial avifauna species recorded during this period remain reasonably stable, although the records show a slight decline in some species, such as Birds of Prey.

Waterbird species observed at this site during the recorded period has declined when comparing with the records of 2020 and 2019.

Shorebird species Six shorebird species were observed at this site during the recorded period which is fewer than in previous years. Two of the six are migratory, and are regular visitors to the site. The numbers of Latham's Snipe were less than previous years, but relatively stable. A Pacific Golden Plover observed in Cell E in February 2021 is a welcome visitor and has been observed at the site in previous years. This species breeds in Siberia and Alaska, migrating to Australia during the Northern hemisphere winter. The other 4 species, Black-fronted Dotterel, Masked Lapwing, Black-winged Stilt and Comb-crested Jacana breed in Australia. The presence of juveniles of the Comb-crested Jacana, Black-winged Stilt and Masked Lapwing most likely indicate breeding at the Byron Wetlands site, although the nests have not been observed.

Nesting species & young-out-of-nest observed on site

Australian Figbird - nest observed

Fairy Martin - nest observed

White-breasted Woodswallow- building nest

Olive-backed Oriole - building nest

Chicks & young observed of:

Masked Lapwing

Black-winged Stilt

Comb-crested Jacana

Dusky Moorhen

Black Swan

Pacific Black Duck

Grey Butcherbird

3.3 Byron Wetlands Threatened Species: Results

Three threatened species were recorded from a total of 23 for the site. Fourteen were recorded in the period 2015-2020.

Byron Wetland Threatened Species				
Species	Date sited this report period	Last previous record	Grid/Cell location	Comments
Comb-crested Jacana <i>Irediparra gallinacea</i> (Vulnerable)	Recorded on all visits, from the beginning of the survey period on February 9, 2021 to the final survey on December 7, 2021.	Recorded on previous surveys during 2020 & 2019. Rarely absent from the site.	All cells	Recorded at each survey. Numbers range from 2 to 11; 11 being the greatest number recorded for the year 2021. The presence of chicks and immature Comb-crested Jacana would indicate successful breeding activity at the survey site. On February 9, 2021 3 chicks and 4 immature were observed. In December 7, 2021 chicks x 4 were observed in Cell I.
Black-necked Stork <i>Ephippiorhynchus asiaticus</i> (Endangered)	9/11/2021 & 20/11/2021	BBB did not record any sightings in 2020 but e-Bird records documented for 3/1/2020, 7/4/2020, 6/6/2020, 18/11/2020. Several sightings also in 2019	C3	A single bird was recorded by BBB during the two November surveys. Usually, only single birds will appear.
Rose-crowned Fruit Dove <i>Ptilinopus regina</i> (Vulnerable)	01/06/2021	Heard calling in May & June 2017 & again in May 2019	D2	One Rose-crowned Fruit Dove heard calling during June survey in swamp melaleuca forested area Grid location D2. Rarely observed.

4.0 Summary of Vallances Road Survey Results

4.1 General Observations

A total of 132 bird species were identified between 11/01/2021 & 17/11/2021. This is 17 species more than the year 2020, and 13 species more than 2019. This is the greatest number of avifauna species recorded at the site since 2007. Table 4. for Vallances Road shows the Total number of avifauna species by family group. Table 4.1 shows a comparison with previous years numbers.

New Species: Three new species were seen at Vallances Road survey site in 2021. That brings the total species number to 183 for this site.

1. Painted Button Quail. 3 birds were seen in the grassy paddock, Grid reference C6, on 28/09/2021.
2. Yellow-billed Spoonbill. 2 birds were seen flying over the site during an afternoon survey on 12/01/2021.
3. Yellow-rumped Thornbill. 2 birds seen (Grid E6) on 13/07/2021.



Red-backed Fairy wren, Vallances Road. Photo: Bruce McNaughton

Table 4. Avifauna Species by Family Group at Vallances Road

Family Group No.	Family	9/7/21 -7/12/ 21	9/05/20 -28/12/ 20	26/02/ 19 – 12/12/ 19	15/06/1 8-12/12/ 18	26/02/1 7-08/1 0/17	Maximum for site since 03/05/07
1	Mound Builders & Quail	2	3	1	2	0	3
2	Swans, Ducks & Grebes	5	3	6	5	4	8
3	Pigeons & Doves	10	8	10	7	10	11
4	Frogmouths, Nightjars & Swifts	1	0	1	0	0	4
6	Frigatebirds, Gannets & Cormorants	4	3	4	4	4	6
7	Herons, Ibis, Spoonbills & Allies	13	10	10	9	11	15
8	Birds of Prey	10	9	9	10	10	16
9	Brolga	0	0	0	0	0	0
10	Crakes & Rails	3	2	4	2	2	7
11	Shorebirds	1	1	2	3	4	8
12	Button-quail	1					1
14	Cockatoos & Parrots	8	7	6	7	7	9
15	Cuckoos	8	7	5	6	8	9
16	Owls	1	0	1	0	2	4
17	Kingfishers, Rollers & Bee-eaters	6	6	6	6	5	7
18	Pittas & Treecreepers	0	0	0	0	0	2
19	Bowerbirds	0	2	0	1	1	2
20	Fairy-wrens	3	3	3	3	3	3
21	Scrubwrens, Allies & Pardalotes	9	6	7	7	6	11
22	Honeyeaters	10	11	10	9	10	14
23	Quail-thrushes & Allies	1	1	1	1	1	1
24	Cuckoo-shrikes & Trillers	3	3	3	3	3	3
25	Whistlers, Shrike-thrushes, Figbirds & Orioles	6	6	6	6	5	6
26	Woodswallow	1	1	1	0	0	2
27	Magpies & Butcherbirds	5	5	5	5	5	5
28	Fantails	3	2	3	3	3	3

29	Crows	1	1	1	1	1	1
30	Flycatchers & Monarchs	6	5	4	3	4	6
31	Robins, Old World Warblers & White-eyes	4	4	5	4	5	7
32	Swallows & Martins	2	2	2	2	2	3
33	Thrushes, Starlings & Mynas, Flowerpeckers	2	2	2	2	1	2
34	Finches, Mannikins Sparrows	2	2	1	1	1	3
35	Pipits, Wagtails & Others	1	0	0	1	0	1
	Total Species	132	115	119	113	117	183
Total No of Family Groups = 33							
No of surveys per year		9	6	6	3	5	

4.2 Observations of avifauna species at Vallances Road include terrestrial birds, shorebirds and water birds

Terrestrial avifauna species recorded during this period remain stable and are increasing in diversity.

Waterbird species observed at this site during the recorded period remain consistent with previous years records from 2020 and 2019.

Shorebird species 1 Shorebird group has been recorded at the site and that is the Masked Lapwing. As outlined in the 'Byron Wetlands and Vallances Road Avifauna Survey Byron Bird Buddies Report 2015-2020', the Shorebird group numbers remain low . This group has been declining since 2007, since their habitat in the oxbow has seen an increase in mangroves. Unless mangroves are removed and more mudflats exposed, shorebirds are unlikely to return to the oxbow.

Nesting species & young-out-of-nest observed on site

Eastern Yellow Robin - adult observed on nest and second adult observed near nest. (Grid E6)

Noisy Friarbird - adult on nest (Grid F5)

Australian Magpie building nest (Grid C5)

Australian Brush-turkey - nest observed but no adult nearby. (Grid F5)

Nest observed at top of large hoop pine (Grid D4). Discussion by BBB surveying the site whether this is a nesting attempt or active nest of the Black-necked Stork that frequents the site. No Black-necked Stork young observed throughout the year so this is probably not an active nest.

Golden Whistler - juvenile bird observed.

Brush Cuckoo - juvenile bird observed

White-bellied Sea-Eagle- 2 x adults and 1 x juvenile bird observed 13/7/21 (flying over). White-bellied Sea-Eagles have nested along the Brunswick River near the Vallances Road STP site for many years. The nest is not visible from the survey site but the calls of the White-bellied Sea-Eagles are often heard during breeding season.

4.3 Vallances Road Threatened Species:Results

Four threatened species were recorded from a total of 12 for the site. Eight were recorded in the period 2015-2020.

Vallances Road Threatened Species				
Species	Date sited this report period	Last previous record	Grid/ Cell location	Comments
Rose-crowned Fruit-Dove <i>Ptilinopus regina</i> (Vulnerable)	3 birds seen on 02/03/2021	No records for 2020, but last recorded sightings were 26/02/2019, 09/02/2019, 19/10/2019, 12/12/2019.	E6	Rose-crowned Fruit-Dove seen at this site most years. Records from 2008 onwards show the presence of this bird, with an absence in 2020, 2018, 2014 and 2011.
Black-necked Stork <i>Ephippiorhynchus asiaticus</i> (Endangered in NSW)	1 bird seen roosting in large Hoop pine 18/05/2021	20/03/2013 and 13/06/2015	D5	The farm manager agisting cattle at the Vallances Road site has informed BBB that he has observed Black- necked Storks feeding and roosting at the site. No dates supplied but Grid E2 given as a foraging site.
Eastern Osprey <i>Pandion cristatus</i> (Vulnerable)	12/01/2021 02/03/2021 18/05/2021 13/07/2021 28/09/2021	09/06/2019 18/08/2019 09/05/2020 23/09/2020 07/10/2020	D6 F5	A regular visitor. Observed each year on several surveys flying over the river. The Osprey nest along the Brunswick River but the actual nest site has not been observed.
White-eared Monarch <i>Monarcha leucotis</i> (Vulnerable)	13/07/2021	May, July 2020 & 24/11/2020	E4	The first record of this species at this site was in 2020. It has visited again in 2021, which is a very positive outcome. Birds were seen feeding in plantings along the Brunswick River. It is an altitudinal migratory species, moving to lower coastal areas during the winter months. Inhabits and breeds in lowland subtropical and littoral rainforest. Can also be found foraging in regrowth thickets, stream- side remnants like Camphor Laurel scrub and mangroves.

5.0 Conclusion

The 2021 Summary Report shows that both the Byron Wetlands and Vallances Road sites are valuable and dynamic ecosystems. However, the results from Byron Wetlands may be cause for concern. Shorebird numbers continue to decline, and the overall avifauna species groups visiting the site has declined in recent years. An in-depth analysis of the data is not part of this summary report, but brief observation of the records and the conditions of the wetlands over the 2021 period reveal changes to the environment that may contribute to the decline in avifauna species. La Nina has meant that water levels at the wetlands have been extremely high. Water levels in all ponds have been too high for shorebirds to feed. This still does not explain the decline in waterbirds. Increased rainfall throughout Australia may be attracting Waterbirds, and other avifauna species, to areas inland and away from their regular feeding grounds at the Byron Wetlands.

The weed cover that has overrun all the ponds may also be a contributing factor for low waterbird numbers. The water weed, *Salvinia* (*Salvinia molesta*), is covering the surface of many of the ponds. *Salvinia* is a “Weed of National Significance”. If not controlled, it will take over, smothering other plant life and reducing water quality. The growth and spread of *Salvinia* in the Byron Wetlands ponds has been increasing during the rainy season and may be causing problems for not only water quality, but for the water birds. Ducks and Dusky Moorhens, as well as the Black Swans and Coots may have difficulty moving through the heavy mat of *Salvinia*, thus limiting their foraging ability.

During 2021 extensive earth works have been carried out. The noise and heavy vehicle movements may disturb some birds that use the ponds nearby, thus contributing to a decline in avifauna numbers.

The filling of the western oxbow by mangroves at the Vallances Road survey site has resulted in the decline of both shorebird and waterbird species. The freshwater pond in Grid C5 provides habitat for freshwater waterbird and shorebird species. For terrestrial avifauna species, both sites provide suitable and important habitat. Terrestrial avifauna numbers are rising at the Vallances Road site, where plantings are now established.

Vallances Road is a different ecosystem from Byron Wetlands. Byron Wetlands is especially important during times of drought. The decline in shorebird and other avifauna species at this site is unsettling, and attention to appropriate management of the wetlands is necessary to ensure that this site remains a refuge for shorebirds and waterbirds.

6.0 Recommendations

The following recommendations are also outlined in BBB's Byron Wetlands and Vallances Road Avifauna Survey Annual Report 2015-2020.

6.01 Providing habitats that support avifauna population adds to biodiversity benefits and values for the shire through the provision of ecosystem services, such as seed dispersal, pollination, insect and rodent control, and scavenging and nutrient deposit. Avifauna are sensitive indicators of change in the environment and can provide early warnings of environmental problems. They also provide an economic service through nature-based tourism and add to cultural heritage through art and stories.

6.02 Continued monitoring of avifauna species is recommended on a regular basis to detect changes and to provide feedback to improve and modulate future management of both sites. This is an action that could be implemented under AIM 4 as identified in the recent Byron Shire Council Biodiversity Conservation Strategy 2020-2030.

6.03 We recommend the production of another report in 2 years time. This is the 7th report BBB has provided on avifauna species. At both sites we consider that the majority of bird species have been identified. Allowing for migration and nomadic behaviors the populations would appear to be stable except for the shore and water avifauna, hence the need for additional biennial reports.

6.04 BBB members can continue to monitor the site and maintain Excel Spreadsheet records, however BSC may want to consider an independent report from this data.

6.05 Given the site's national importance (in terms of number of threatened species found), BBB recommends an 'Advisory Body' or 'Friends of the Wetlands' or some such group be established to oversee the management of both sites. Such a committee should have a representative from stakeholders active at both sites to disseminate information so all may be informed of the management issues where relevant. It is likely Byron Wetlands could meet a RAMSAR status if a nomination were to be placed.

6.06 We recommend that the impacts and threats stated above be incorporated in ongoing published management protocols and be distributed widely to Council employees.

6.07 Further, Council should provide adequate resources to ensure that responsible and informed oversight management of the wetlands is sustained into the future as an integral part of Council's ongoing Delivery Programs and Operational Plans reflected in Annual Reports.

Byron Wetlands

6.08 Re-vegetate, with appropriate species, along the common boundary fence between the Wetlands and Ewingsdale sports complex with trees and under-storey species for the control of light and noise pollution.

6.09 BBB has recommended, in previous reports, that the use of herbicide spraying and mowing of low vegetation at the edge of cells be reduced as far as practicable. A number of avifauna species utilise the edge vegetation for protection, especially the shy rails and crakes and also the migrating

Latham's Snipe. Edge vegetation is also an important foraging habitat for scrub-wrens and fairy-wrens. Recent large-scale operations of this sort necessitates the reiteration of this recommendation and we urge Council to alter and moderate this behaviour, which has resulted in wide-scale habitat removal and poisoning, thus ignoring our past recommendations and agreements.

6.10 Suitable habitat for migrating shorebirds is not being maintained adequately in Cell H. BBB recommends that alternative cells continue to be managed to supply an appropriate habitat for shorebirds if this cannot be provided in Cell H. (eg: providing exposed muddy banks for shorebirds to feed).

6.11 Council should maintain and develop a diverse range of natural habitat opportunities with a view to increasing the area of protected habitat as urban development expands and impacts the environment. As recommended in our 2015-2020 report, maintaining appropriate habitats will be increasingly important as human populations and their associated activities from the new West Byron Urban Release area, the Bayshore Village development and North Beach development, Cavanbah sports field and the proposed Bioenergy Facility, come online. These developments will almost certainly destroy the amenity for shorebirds at the mouth of the Belongil Estuary. Our monitoring has shown that shorebirds will come if the habitat is right. Unfortunately, the opposite is also true.

6.12 In considering expansion of the wetlands, wherever possible within the operational plan requirements, we recommend further shorebird areas be created.

6.13 In our 2015-2020 report, BBB recommended a review of documents associated with the management of the Byron Wetlands. There are at least five documents that BBB is aware of: West Byron "Cell H" Management Plan 2006, West Byron Sewage Treatment Plant Weed Management Strategy 2005, Operational Environment Management Plan, West Byron Visitor Education and Impact Plan, and West Byron Monitoring and Impact Verification Plan which contain much replication and similar material. Even though we believe a review was being considered, we are not aware that this has taken place as of this date. BBB suggests for future management and simplification, these plans should be condensed into one strategic plan with the background material separated into a self-contained document. In so doing, this new plan could be less complicated, more relevant to the community, and more effective in meeting some of the objectives stated in the five documents. A review of the results of monitoring over the past 12 years is needed to drive the new actions for the future management of the area and also take into consideration knowledge associated with the effects of climate change and future impacts from population growth.

6.14 BBB is aware of, and supports the on-going fox control measures being conducted at Byron Wetlands, but effective fox control also needs to be implemented at Vallances Road.

6.15 There continues to be the potential for improved visitor experience, particularly education, at the Wetlands. Sadly, a number of actions in the West Byron Visitor Education and Impact Plan have yet to be implemented. BBB members are committed to monitoring, providing education and conducting one open day per year at the wetlands. However, BBB will have limited capacity to continue the open day for the public in the future. The Interpretive Centre at the Byron wetlands is a useful resource. However, due to its size numbers should be limited to 30 people. We recommend using the Cavanbah Centre if a larger space is required for community events or groups.

6.16 As part of a biodiversity program, a part-time education coordinator should be funded and tasked with specific educational opportunities.

6.17 Over the years, many trees have been brought down by strong winds at the Byron Wetlands and replacement planting is recommended. Where possible, and if funding is adequate, the dead trees in Cell I should be replaced. At least 3 such trees could be provided, to act as useful perching habitat for many bird species.

Vallances Road

6.18 In the long term, an opportunity exists at Vallances Road for public visitation similar to the arrangements at West Byron and we suggest that this be studied and implemented where minimal disturbance to the birds can be achieved.

6.19 We suggest rethinking the agisting of cattle on the property at Vallances Road. Are the rotation programs really beneficial or are they detrimental to the biodiversity values? For example, recent rains brought about dense stands of grass and with them large numbers of quail, including uncommon species. Within a week or two cattle were brought in and the structural integrity of the grassland was instantly destroyed. As a result, nearly all the quail vanished from the area. Vallances Road can provide outstanding and uncommon habitat for a wide range of grassland dependent birds, including quail, cisticolas, grassbirds, mannikins and finches if its management is right.

6.20 We recommend that more paddock trees be planted. These trees can be situated in small groves, as well as individual large specimens, at distances of no less than 50 metres from one another. Appropriate and varied local native species should be chosen to maximise habitat potential and structural diversity.

6.21 Limited and carefully overseen fire management of a small number of discreet grassland patches should be used experimentally with a view to determining impacts on natural biodiversity and resultant habitat change over time.

Climate Change

6.22 Climate change has been listed as a key threatening process under the Biodiversity Conservation Act. Projections of future changes in climate for New South Wales include higher temperatures, increasing sea levels and water temperatures, more intense but possibly reduced annual average rainfall, increased temperature extremes and higher evaporation. These changes are likely to lead to greater intensity and frequency of fires, more severe droughts and increased regional flooding. As a direct result we recommend research and the management of these areas to incorporate a diversity of habitat opportunities as well as floral diversity, with an eye to promoting an area more flexible and able to handle extreme changes of climate over time.

6.23 Byron Wetlands and Vallances Road, besides being water augmentation facilities, are highly significant biodiversity properties. They routinely provide among the greatest numbers of bird species observed within a given time period in relation to the great range of areas BBB and other birding groups have studied in the Northern Rivers. In short, these two areas cannot be underestimated in terms of their value to avifauna at local, national and international levels. They are also important linkage corridors for native species occupying and travelling between moist

coastal habitats to the western escarpments and beyond. In addition, the generally favourable and abundantly resourced nature of these areas, notwithstanding their limited size, provides highly significant refugia for many out-of-area species, magnifying their importance well beyond state and national significance.

Byron Bay Bird Surveys Transect and locality grid



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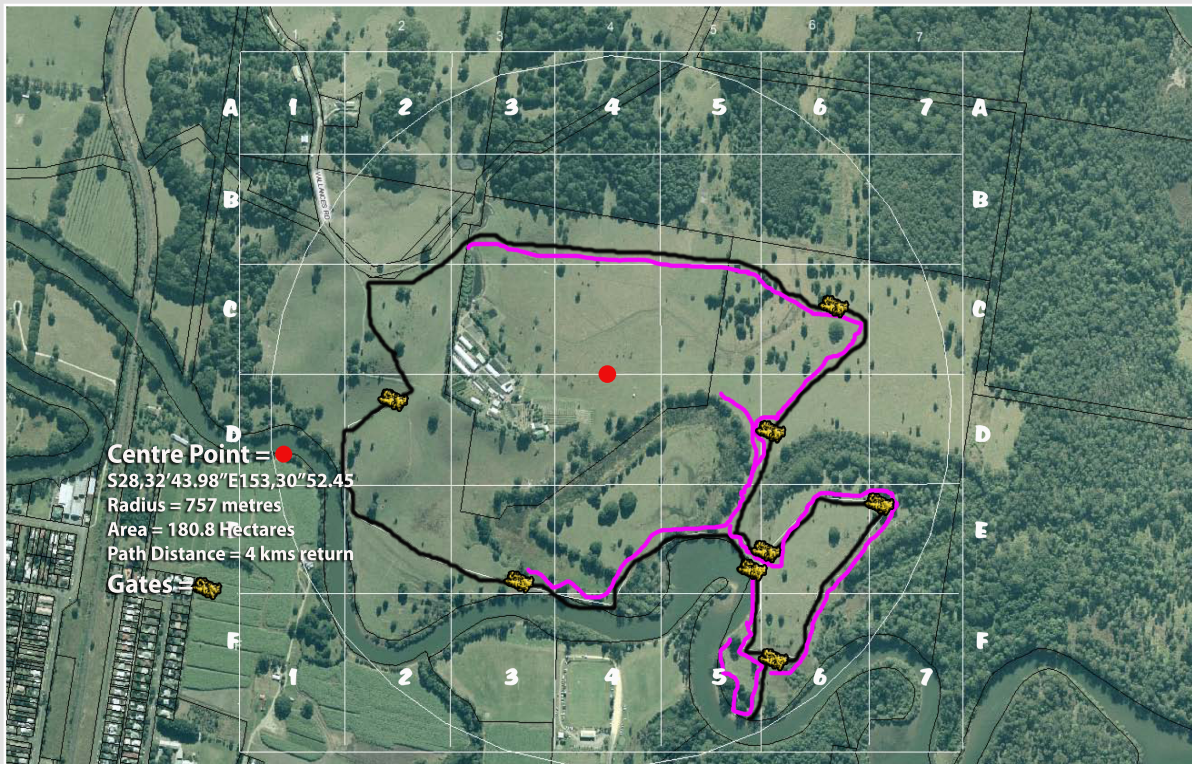


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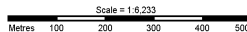


Vallances Rd Bird Surveys

Transect and locality grid



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