EUROBODALLA
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NEWSLETTER NUMBER 189 **July 2021**

Blue-billed Duck *Oxyura australis* (Gould 1836). A newcomer to the shire?

On 24 September 2020, an ENHS member saw two Blue-billed Ducks on Bevian Swamp. The first reported sighting in the shire since ENHS records began in 1986, it excited considerable interest and motivated many visits to the swamp. At the time of writing (late April) up to ten of these ducks have been seen there regularly since that first sighting.

Male Blue-billed Duck Photo G McVeigh

The Blue-billed Duck is one of six ducks in the genus *Oxyura* and is endemic to Australia. The other five members are distributed across the Americas and Africa. The species was first described in 1836 by John Gould, the famous ornithologist who gave his name to the Gould League. The genus name is derived from two Greek words, oxys, meaning sharp and oura, meaning tail. The specific name *australis* is derived from the Latin for "southern". Other common names for the Australian species are Blue Bill, Stiff Tail, Spinetail and Little Musk Duck.

Blue-billed Ducks are found in the temperate wetlands of the south-east and south-west, on fresh and saline water, on deep, permanent wetlands and lakes. In NSW they are most common in the southern area of the Murray-Darling Basin and visit the NSW coast only rarely. Adult birds are more likely to be sedentary, but juveniles disperse from the inland swamps where they hatched to non-breeding areas on the Murray River system and coastal lakes in Victoria and South Australia, where they overwinter in flocks of up to a thousand.

These are small ducks, reaching about 40 cm in length. The stiff tail is usually carried flat on the surface of the water, held erect and fanned mainly during display or when alarmed. In breeding plumage, the adult male has a deep chestnut body, glossy black head and neck and a sky-blue bill. Some males retain these colours all year. Eclipse plumage is variable, and the bill may be grey or dark green. The female has a brown bill and dark brownish grey to black plumage, barred with lighter brown. It can be difficult to distinguish between males in eclipse plumage, females and juveniles.

Female Blue-billed Duck Photo P Gatenby

With legs set far back on their bodies for efficient swimming, Blue-billed Ducks walk awkwardly and are rarely seen on land. When disturbed, they are more likely to dive than fly. They sometimes feed on the surface but mostly dive deep to filter the soft mud, submerging for up to 30 seconds. Their diet comprises aquatic vegetation, molluscs and aquatic insects. They call rarely, usually when displaying.

In 1966, Paul A. Johns Gard, published an article in the ornithology journal, ‘The Auk’, in which he described in detail the numerous display behaviours of the Blue-billed Duck. The complex and extensive repertoire of the male included head pumping, neck inflation, smacking the water with its head and bill

and swimming backwards.
The only other Australian native stiff-tailed duck is the more common Musk Duck *Biziura lobata* which, as its scientific name tells us, is a member of a different genus. In fact, it is the only surviving member of the genus *Biziura*. In silhouette, the Musk and Blue-billed Ducks are similar. Males of the two species are easy to tell apart during the breeding season due to the Blue-billed Duck's colours and the prominent leathery lobe under the Musk Duck's bill. But it is possible to confuse males outside the breeding season and females all year round. Though the Musk Duck is significantly larger, size can be difficult to judge, especially at a distance. There are, however, a couple of other differences. The Blue-billed Duck has a more rounded, smooth head and a large, scooped bill, whereas the Musk Duck has a small, triangular bill. The Musk Duck also sits lower in the water.

The breeding season is variable, but generally between September and March. Nests are usually solitary, in secluded spots among bullrushes or other dense vegetation, and are made of rushes and sedges, sometimes lined with down. The birds are polygamous and remain in pairs only for copulation and egg-laying. The female lays a clutch of five or six eggs, incubates for around 26 days and cares for the ducklings for four to five weeks.

BirdLife International currently classes the Blue-billed Duck as near threatened, due to its relatively small though apparently stable population. In 2017, the NSW government classed it as vulnerable. The main threat to its survival is loss of habitat due to draining or degradation of deep, permanent wetlands. Gillian Macnamara

What's coming up…..

A copy of the Field Meeting program for the latter part of this year, with a description of the system for grading walks, is included with this Newsletter.

Sunday 25 July, 9am Pedro Swamp. (3-4 km Grade 3). Meet at the car park outside the Moruya Library, off Vulcan Street, Moruya. A visit to private property with access to Pedro Swamp. Glossy Black-Cockatoo, Red-browed Treecreeper, White-eared and Fuscous Honeyeater, Musk Duck, Swamp Harrier.

Saturday 14 August, 2pm Ringlands Rainforest. (1-2 km Grade 1) Meet at the end of Flying Fox Road, Narooma. Rainforest and bushland. Topknot Pigeon, Brown Gerygone, Superb Lyrebird, Large-billed Scrubwren, Wonga Pigeon, Brown Cuckoo-Dove.

Sunday 29 August, 9am South Durras. (3-4 km Grade 2) Meet at Durras Oval, opposite the corner of Durras Drive and Durras Lake Road, South Durras. A look around Durras Oval, the creek and headland and continue to Fern Drive. After the walk along Fern Drive, drive to the lake where there are facilities for lunch.

Saturday 11 September, 2pm Jemisons Point, Potato Point. (3-4 km Grade 2) Meet next to the Rural Fire Shed on Potato Point Rd. Spotted Gum and Bangalay forest. Emu, Wonga Pigeon, Glossy Black-Cockatoo, Yellow-tailed Black-Cockatoo, New Holland Honeyeater, Red-necked Wallaby.

Sunday 26 September, 9am Gulaga – lower area. (3-5 km Grade 3) Meet at the car park at Pam's Store, Corkhill Drive, Tilba Tilba. Across farmland and up the lower reaches of Gulaga. Noisy Pitta, Green Catbird, Yellow-throated and Large-billed Scrubwren, Pilotbird.

Saturday 9 October, 2pm Coila Creek Road. (2-3 km Grade 1) Meet at the corner of the Princes Highway and Coila Creek Road, just south of the Coila Creek service station. Farmland and patches of bush. White-throated Gerygone, Scarlet and Brown-headed Honeyeater, Jacky Winter, Rufous Songlark.

A warm welcome to new members….

Lindsay and Rhonda Hansch, Sunshine Bay.

Correction

In the previous Newsletter the article the field meeting at Wallaga Lake and Long Swamp opened with the statement "What a splendid afternoon". The meeting was actually in the morning. Many thanks to Julie Collett for pointing this out.

Field meeting – South Head, Moruya

Spangled Drongo Photo P Gatenby

On the afternoon of 8 May a group of eight members assembled at the carpark outside the Moruya Library. The plan had been to visit Mynora, a property on the Moruya River flats, but flooding caused by heavy rains over the previous week made that impractical. It was decided instead to see what was happening at South Head. The hope was the recent weather might have brought some interesting seabirds close to shore, but alas not so – only a solitary Australasian Gannet, a single Greater Crested Tern and a handful of Silver Gull were sighted.

The walk around Toragy Pt and down to Shelly Beach yielded more, with large numbers of wattlebirds and the commoner honeyeaters plus one Scarlet Honeyeater. Also, somewhat surprisingly, a Spangled Drongo - there seem to have been more reports of drongos this year than for many years. The estuary near Quandolo Island provided an array of cormorants and 2 waders off in the distance. The consensus on the day was that they were probably Whimbrel, but subsequently, after looking at the photos taken by Paul Gatenby, it seems more likely they were Far Eastern Curlew.

On the walk back to the carpark a White-headed Pigeon and Spotted Dove posed happily for the photographers and we ended the day with a list of 43 bird species sighted. As Helen Watson commented on the ENHS Facebook page "Lovely afternoon bird watching". David Kay

Panicum decompositum: all things old are new again

For some years now, Indigenous people have tried to encourage the use of the flour of native grains for baking, in particular *Themeda triandra* (Kangaroo Grass) and *Panicum decompositum* (Native Millet). *Themeda* grows throughout Australia and is well known to South Coast residents. There are several *Panicum* species growing locally as well, but *P. decompositum* inhabits inland districts.

Scientists have done much research on the properties of the grain of these two species, and both are considered to have potential. However, the *T. triandra* seed is covered with leafy bracts that hold neuter and male reproductive units but with only one bisexual unit. The development of machinery to remove these bracts has proved so difficult that at present it does not appear feasible to produce flour in commercial quantities.

Panicum decompositum seed heads Photo H Rose

The grain of *P. decompositum*, on the other hand, while small (2.5-3.5mm long), is not hidden in the same way, so its extraction does not present such a problem. The seed falls away from the flower stalk, leaving some of the bracts on the stem, with only three bracts around the grain to be removed.

Research in northern inland NSW by scientists from the University of Sydney has shown Native Millet to be the most economically viable native grain that occurs naturally in that region. The researchers included experts in ecology, food science, social science, marketing and business. Native Millet has turned out to be easy to grow and to harvest, easy to turn into flour, 'significantly more nutritious than wheat' and gluten free. The flour is light in texture, dark in colour and bursting with aroma. It can be bought online for about $8 for 500g, then mixed with wheaten flour at a ratio of 15:85 to make leavened bread with good texture, flavour and aroma.

The research leader says more work needs to be done to improve techniques, machinery and costs, but it is hoped the present study will see the beginning of many native foods being introduced on supermarket shelves.

The study leaders have stressed the importance of making sure that the local Traditional Owners lead the way in further development, weaving their traditional knowledge and customs into modern technology.

Panicum decompositum leaves
Photo H Rose

Panicum decompositum is a perennial, dense, tussocky plant, about 1m tall, generally with broad leaves (3-9.5mm wide) that are sometimes sprinkled with hairs. The flowering stems are about 40cm high, with an open branching appearance (rather like a very mini tree – a panicle in botany speak). The flowers/seeds are often clustered near the tips of the 'branches' and are shiny with a green/purple tinge.

In company with other perennial native grasses, it has a large fibrous root system that makes it ideal for stabilising eroded areas, it sequesters carbon and supports biodiversity. It also has forage value for stock in rangelands and semi-arid regions and can be cut back to encourage leafy growth. Jenny Liney

References

Jacobs, S.W.L., Whalley, R.D.B., Wheeler, D.J.B. Grasses of New South Wales, 4th ed. University of New England, Armidale: 2008
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Pascoe, Bruce. Dark Emu: Black Seeds: Agriculture or Accident? Magabala Books, Broome: 2014

Beautiful Banksias

You can't get a more iconic Australian plant than a Banksia. They are endemic to Australia, apart from one tropical species, and grow throughout Australia except in the deserts.

Banksias are an important part of our natural environment. They produce abundant nectar for many birds (honeyeaters in particular), small mammals and insects, and the fruit is a favourite of the Yellow-tailed Black Cockatoos who like to do a bit of pruning as they feed.

Banksia integrifolia
flower spike
Photo S Pearson

They are part of the Proteaceae family (the same family as Grevilleas and Waratahs). However, they are easily recognisable by their distinctive flower spikes and woody fruit. The flower spike is made up of many small flowers and as it matures the style emerges, allowing the stigma to pick up the pollen from the anthers. The nectar is at the base of each flower. The fruit (follicle) is set into the stem of the old flower spike. Each follicle has 2 valves which protect 2 small winged seeds. After the seeds are released 2 woody 'lips' remain.

Banksia integrifolia
open follicles
Photo S Pearson

The species that you will encounter most in the Eurobodalla are: *Banksia integrifolia ssp integrifolia, B. paludosa, B. serrata, B. spinulosa.*

Banksia integrifolia, Coast Banksia, grows in coastal scrub or forests on sandy soils. They produce pale yellow flower spikes up to 12cm high, mainly in winter. They can grow between 6-16m high.

Banksia serrata, Old-man Banksia, grows in dry sclerophyll forest or woodland on sandstone or on deeper sandy soils on the coast.

Banksia serrata
flower spike
Photo S Pearson

Banksia serrata
immature flowers
Photo S Pearson

They grow between 3-16m tall. The main flowering time is January to June. The distinctive features are its stiff, serrated leaves and thick, gnarled bark.

Banksia spinulosa styles emerging Photo S Pearson

Banksia spinulosa, Hairpin Banksia, grows in sheltered woodland to about 2m high. The flower spikes are golden-yellow and up to 15cm tall, flowering from March to September. The common name derives from the stiff, black hooked styles that emerge as the flower matures.

Banksia paludosa, Swamp Banksia, grows in wet sandy heaths to about 1m tall. The flower spikes are yellow and up to 10cm long, and flower between April and August.

Banksia spinulosa style and stigma emerged. Photo S Pearson

From the various stages of the developing flower spike to the character-filled woody fruits, Banksias are a delight to observe as well as being a great magnet for wildlife. Sharon Pearson

Reed Warblers in the Brindabellas part 2

In Newsletter 187, we wrote about a project we started in 2019, on Reed Warblers in the Brindabellas. We managed only one trip in the 2019/20 season due to the bushfires and COVID. We have just done our last field trip for the 2020/21 season, so can report on our findings so far.

The study site comprises four separate reed beds (*Phragmites*) which cover an area of approximately 9,500 square metres. We went out to the site for three nights once a month, September 2020 - February 2021 inclusive, and then in April 2021 to see if any birds were still on the site. On the first morning of each field trip, we walked the reed beds boustrophedon* and we are confident that we found all the nests on each visit. Cameras were put on the nests, to be collected on the next trip. We then put up nine mist nets which covered all four reed beds. The next morning, we opened the nets and kept them open for most of the day (unless we caught the same bird in the same net twice, in which case that net was furled). The nets were taken down at the end of the second day. All the birds were sexed, measured, weighed, colour-banded and released. We found that the sex of the birds can only be determined by the presence of a brood patch (a female) or by a bird being associated with a known female at a nest on camera (a male). We can identify the male at a nest, as the males guard the nest, without sitting on it, while the female is absent. But 59% of the birds we caught could not be sexed.

Reed Warbler nest Photo M & S Guppy

A summary of the data so far is given below:

1. We banded 9 birds in 2019, and retrapped 6 of these in 2020/21.
2. Three of the six 2019 birds that were retrapped in 2020/21, were again retrapped during the 2020/21 season.
3. We banded 39 birds in 2020/21: 4 males, 12 females and 23 sex unknown.
4. Of that 39, 32 (82%), were not retrapped (1 male, 10 female and 21 unknown).
5. Cameras were put on 15 active nests. Some nests showed no activity on camera. Nine birds were definitely associated with a nest (5 males, 3 females and 1 unknown) and 5 were possibly associated with a nest (4 females, 1 unknown). Of the retrapped birds banded in 2019, one (a male) was definitely associated with a nest, and one (unknown) was possibly associated with a nest.
6. There were 8 nests for which we identified no female, and there were 8 females (with brood patches) for which we had no nest.
7. There were minimally 6 pairs according to the concurrent nest data (i.e. the maximum number of nests that were simultaneously active).

8. We came up with 5 pairs simply looking at what we think are pairs at nests on the cameras.
9. Seven birds were associated with at least three nests, one bird was associated with four nests, and one male and one female had three nests with the same partner.
10. All repeat nests for which the individuals were identified, were in the same reed bed, within a few metres of each other.
11. We heard no Reed Warblers on our last field trip in April and caught none in the nets. We are as confident as one can be for a negative finding, that there were no Reed Warblers on the site on April 18, 2021.

We will do at least one more season, starting in September 2021. There are two unanswerable questions which arise from this season's data. Where do these birds go over the winter, and what was going on with the 82% of the birds banded in 2020/21 that were never caught again? But next season's data will tell us how many of the 2020/21 birds come back in 2021/22, whether they pair up with the same mate, and whether they nest in the same part of the reed beds as they did in 2020-21. Michael and Sarah Guppy

* Boustrophedon: systematically back and forth, literally as the ox ploughs.

With Our Own Eyes, Eurobodalla - WOOEE

Local project co-ordinator Magella Blinksell has forwarded news about an exciting 'With Our Own Eyes Eurobodalla' (WOOEE) web-blog project, which will be published online late this year. WOOEE will gather together local stories/art/ photos/poetry/ video/ writing and nature observations, chronicling the local climate changes we are seeing in Eurobodalla's ocean, waterways, habitats, forests and backyards, and in our lives. Magella is currently curating and digitising contributions.

ENHS members are invited to send in contributions of nature/flora photographs or video, 200–600-word articles or responses to the local climate changes you have observed in Eurobodalla, on a particular species or type of habitat. The blog will also feature local solutions and initiatives whose value we see with our own eyes. The project is supported by 350.org Eurobodalla, local bushfire survivors and wildlife carers. It grew out of our local experiences of the 2019-2020 Black Summer fires.

Please feel free to contact Magella at Withourowneyeseurobodalla@gmail.com with any contributions.

What a complex web they weave

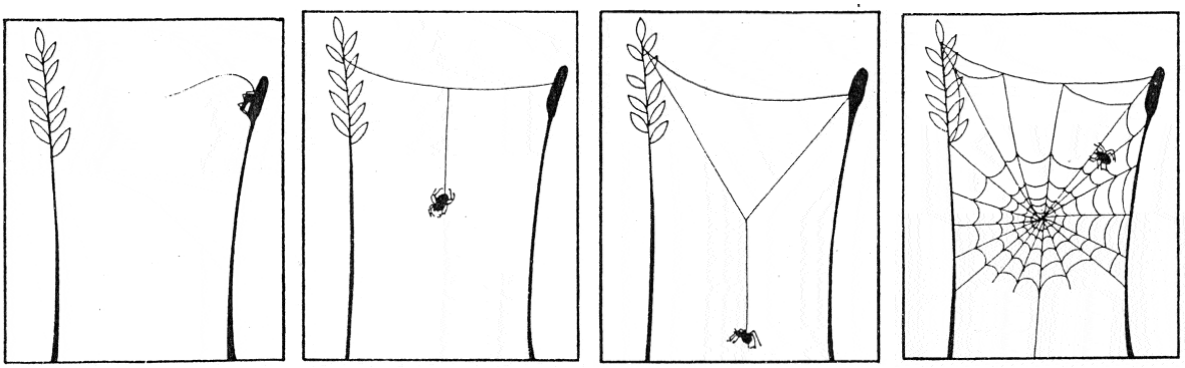
If you have ever watched a spider as it works to build a web, spiralling inwards with a thread of silk that intersects each glistening spoke with a precise touch of the foot, you will know that it is a remarkably complex behaviour. And spiders do not learn to make webs by watching other spiders; the behaviour is encoded in their genes.

Spiders use their webs for prey capture, habitat, and platforms for communication with spiders of the opposite sex. Although all spiders produce silk, not all build webs to catch their food. Those that do produce a wide range of web types. Net-casting spiders make rectangular nets that they throw out to capture prey. Fishers such as the Magnificent Spider drop a single line to capture flying insects. Some trapdoor spiders lay out trip lines around their burrow entrances to alert them when prey walks past. Ground-dwelling spiders such as Platform spiders make sheet webs. Daddy Long Legs make tangle-webs, which are three-dimensional and made up of vertical silken lines with a sticky substance at the bottom.

So how do spiders make their webs? First, they produce the silk. They store the building blocks of silk in liquid form in silk glands in their abdomen, which is at the rear of the body. Each gland produces a different silk, each for a specific purpose. When a spider starts to build its web, the liquid moves out of the gland through a valve controlled by the spider's muscles and is released out of tiny openings called spigots on the spider's spinnerets at the tip of the abdomen. The liquid silk quickly becomes solid after contacting the air. The process of turning the liquid into solid, extremely strong and stretchy, flexible silk is still a mystery. Scientists have been trying to replicate it with no success so far.

This article focusses on the webs of orb spiders, seen in abundance in the Eurobodalla. Future articles will cover other web types.

When an orb spider begins a web, it releases a silk thread which floats through the air and attaches itself to a solid object. The spider then attaches the other end before going to the middle and attaching another silk fibre and pulling it down into a Y shape. As the spider moves back and forth it adds more threads, strengthening the web and making a pattern. Threads that go from the centre of the web are called radial lines and threads that go around the web are called orb lines. Orb weavers can vary the silk they produce, using non-sticky silk for the structural lines of the web and then filling in with sticky silk to trap insects. The web generally takes about an hour to build. Helen Kay and Gillian Macnamara



Annual General Meeting

Fifteen members attended the AGM, held on 23 May at the Pavilion in the Eurobodalla Regional Botanic Gardens. In Julie Morgan's absence, David Kay chaired the meeting. The minutes for the 2019 AGM were tabled and accepted.

Business Arising: A second printer was not purchased as Julie Morgan is using her own new printer for ENHS business. Peter Haughton and Gillian Macnamara are following up the Bird Trails project.

Chair's Report: Attendees received copies of Julie Morgan's report. She reported that the Society continues to flourish. Julie thanked all office bearers and committee members for their ongoing support and work including Lyn (standing down as Secretary and committee member) and Gillian (standing down as committee member). The 35th edition of NIE will be published in 2021. Julie thanked members for their recordings and David Kay for his commitment to its publication. She also thanked the newsletter team and the contributors for their work. Thanks also went to members who bring their expertise, leadership and suggestions to the field meetings, and to Roman Soroka, who administers our website and the Facebook page.

Secretary's Report: We now have about 100 members. Our field meetings were affected by bushfires and COVID restrictions. The Field Meeting program has been divided in two, with the February to July program distributed in early 2021 and the August to November program to be distributed at the end of June. Our Avian observation record sheet was updated in 2020, bringing it into line with Australian recording criteria. Many thanks to David Kay for his work on this. Thanks also to Peter Haughton for producing name tags, and to Roman Soroka for maintaining the website and Facebook pages, which are great sites for photos, information and enquiries about species identification.

Treasurer's Report: Malcolm tabled the report and financial statements for 2020 and 2021, which showed profits of $514.06 and $538.69 respectively.

Election of Office Bearers: Lyn stepped down as the Secretary and Committee member, and Gillian stepped down from the committee. The following positions were confirmed: **Chair:** Julie Morgan; **Secretary:** David Kay; **Treasurer:** Malcolm Griggs; **Recorder:** Julie Morgan; **Committee:** Fran Anderson, Mandy Anderson, Steven Benjamin, Nicola Clark, David Kay, and Roman Soroka. We welcome new committee members Nicola and Roman.

General Business:
The Committee has decided that the NIE will be published online from 2021.

As some members have recently been having difficulty completing field meetings, the Committee decided that more information should be provided in the Field Meeting Program, to help members assess whether they can complete the walks. Under consideration is a grading system like that used for the Australian Walking Tracks, together with a brief description of terrain, length of walk and possible hazards.

A proposal that ENHS identify individual members with knowledge in particular areas of natural history was referred to the Committee for consideration.

Grading of Field Meeting Walks

In recent months we have had a few instances where some participants at field meetings have found the walk more physically demanding than they had anticipated and have struggled or needed assistance to complete it. The Committee has discussed this issue and the difficulties and concerns it raises for leaders and other participants.

We noted that, in signing the Acknowledgement of Risks and Obligations Form at a Field Meeting, participants indicate that they have endeavoured to ensure that the walk is 'within their capabilities and that they are appropriately equipped'. It was nevertheless felt that perhaps more information should be provided about the nature and length of each walk, to allow members to make a more informed decision as to whether it is within their capabilities. We are therefore planning to trial a grading system, loosely based on the Australian Walking Track Grading System, to indicate the level of difficulty. The proposed system is as follows:

Grade 1 Easy
The track is a hardened or compacted surface, is generally well maintained, with minimal intrusions. It may have a gentle hill section or sections and occasional steps. (Examples would include the Batemans Bay Water Gardens, some of the walks at the Eurobodalla Regional Botanic Gardens and the Moruya Riverside walk)

Grade 2 Moderate
The track is a modified surface, generally formed earth, kept mostly clear of intrusions and obstacles. It may be less than 1.2m wide in places, may have short steep hill sections, a rough surface, steps or sections of soft sand. Walks in this grade may involve crossing paddocks with no defined path. (Examples would be Jemisons Pt, Comerang, and Illawong NR)

Grade 3 More strenuous
The track is distinct but may be rough and very steep in sections. Encounters with fallen debris and other obstacles are likely. (Examples would be Gulaga, Box Cutting,)

In addition to indicating the grade of each walk, an estimate of the length of the walk and a short comment on the terrain will be included in the program. The system is being trialled in the program for the second half of 2021, which is included with this Newsletter. The Committee would appreciate feedback on whether this is helpful to members. David Kay on behalf of the Committee.

Highlights from ENHS records - Autumn 2021

Avian species	Number	Place	Observer	Comments
Blue-billed Duck	Up to 10	Barlings Swamp	V Brown/JM /DB/NC/MA/ PG/GC	Displaying in April. Recorded at this site since September 2020.
Musk Duck	1	PS	JM	
Black Swan	Up to 100	Barlings Swamp	DB/NC/JM	Up to 30 nests and cygnets of all ages
Hardhead	20	Barlings Swamp	DB/JM/NC	

Australasian Shoveler	3	Barlings Swamp	DB/JM/NC	
Australasian Grebe	12, 4, 3	Com/MB/MYA	JC/MA/FM	Numbers increasing
Hoary-headed Grebe	3, 2	MO/Com	NM/JC	First records of the year
Brown Cuckoo-Dove	Up to 9	MKS	SMG	
Bar-shouldered Dove	Up to 10	Coila L	GM	
Common Bronzewing	Up to 32	MKS	SMG	
Tawny Frogmouth	1	MO/Com	NM/JC	
White-throated Nightjar	2	PS	JM	Gone by end of March
White-throated Needletail	Thousands	Over Surfside	DB	Estimated up to 6,000
Horsfield's Bronze-Cuckoo	1	PS	JM	In April
Shining Bronze-Cuckoo	1	MO	NM	In April
Fan-tailed Cuckoo	1 or 2, calls	Widespread	Various	Unusually active
Dusky Moorhen	5, 1	Barlings Swamp	JM	Including immatures
Wedge-tailed Shearwater		Off MHS	RSor	In March
Straw-necked Ibis	200+	Com	JC	After flood
Royal Spoonbill	27, 22	NA/Com	DHK/MA/JC	April-May
Black Bittern	1	BB	WIRES	Immature brought into care
Striated Heron	2, 1	Cullendulla Ck/ Broulee	RSor/GLM	2 juveniles at Cullendulla
Cattle Egret	30, 15, 12	Com/MYA/MB	JC/JM/MA	
Great Egret	10, 9, 8	MB/Broulee/Com	MA/GLM/JC	
Intermediate Egret	2	Com	JC	
White-faced Heron	30	Com	JC	
Little Egret	100	MYA	JM	In flooded paddocks north of town with Silver Gulls
Eastern Reef Egret	1	Broulee/MO/MB	GLM/NM/MA	
Australasian Gannet	7, 2, 1	MO/BP/MHS	NM/T&J Lipscombe/FM	
Great Cormorant	Up to 20	Barlings Swamp/ BP	JM/NC	In full breeding plumage in March at BP
Great Pied Cormorant	3, 2, 1	Broulee/Bingie/ MHS	GLM/DHK/FM	
Australasian Darter	1	Com	JC	
Aust Pied Oystercatcher	7	Cullendulla Ck	T&J Lipscombe	Fewer elsewhere
Sooty Oystercatcher	11	B/t MO and Mullimburra Pt	DHK	
Pied Stilt	2	Barlings Swamp	JM/DB/NC	
Red-capped Plover	18	DS	T&J Lipscombe	
Double-banded Plover	2, 1	Broulee/CO	G Hounsell/GC	
Black-fronted Dotterel	2, 1	Com/MO	JC/NM	
Far Eastern Curlew	2, 1	MHS/PS	FM/JM	Overflying PS at night
Bar-tailed Godwit	33	NA	MA	2 in breeding plumage in May
Caspian Tern	3	DS	T&J Lipscombe	
White-fronted Tern	1	Bingie Pt	DHK	
Greater Sooty Owl	Call	MB	MA	In March
Powerful Owl	1 or call	PDD/PS/MO	JF/JM/NM	
Osprey	1	MHS	JM	Back on the telecom tower
Wedge-tailed Eagle	2	Com/Tilba/Cool	JC/MA/DO	
Grey Goshawk	1	CO/Tilba	DHK/MA	
Brown Goshawk	1	MO/MB	NM/MA	
Collared Sparrowhawk	2	PS	JM	
Azure Kingfisher	1	Broulee/Com/NA	GLM/JC/MA	
Sacred Kingfisher	3	Bergalia	DHK	
Australian Hobby	1	Barlings Swamp	T&A Ross	

Peregrine Falcon	1	Com	JC	
Glossy Black Cockatoo	5, 4, 3	PDD/MKS/PS/ Broulee	JF/SMG/JM/ G Hounsell	Pairs elsewhere
Yellow-tailed Black Cockatoo	25	Broulee	GLM	In April
Gang-Gang Cockatoo	15, 11	PS/Broulee	JM/GLM	Fewer elsewhere
Little Corella	100	MYA	JM	

Eastern Rosella	7, 5, 2	Com/Cool/MO/ Bergalia/Belowra	JC/DO/DHK/ NM	
Musk Lorikeet	8, 2	MB/PS	MA/JM	
Little Lorikeet	6	PS	JM	
Superb Lyrebird	2, 1 or calls	NA/LP/Cool/ MKS	FM/IAG/DO/ SMG	
Green Catbird	More than 4	Tilba	MA	
Satin Bowerbird	Up to 20	Com	JC	
Southern Emu-wren	6, 1	Broulee/ Cullendulla Ck	GLM/RSor	
White-cheeked Honeyeater	4	MO	NM	
White-naped Honeyeater	More than 6	PS	JM	Migrating north with Yellow-faced Honeyeater
Brown-headed Honeyeater	12, 6	Com/PS/MO	JC/JM/NM	
White-eared Honeyeater	2, 1 or call	MO/ERBG/MB/ Bergalia/MKS/PS	NM/FM/DHK/ MA/SMG/JM	
Noisy Friarbird	5, 2, 1	Widespread	Various	Last record 19 May in MB
Scarlet Honeyeater	15, 10, 6	Bingie/MB/PS	DHK/JM/MA	Fewer elsewhere
Red Wattlebird	30, 20	Com/PS	JC/JM	Migrating north in small groups
Yellow-faced Honeyeater	More than 300	Com	JC	Migrating north
Yellow-tufted Honeyeater	1	MB/MKS	MA/SMG	Only second record for MB
Striated Pardalote	4, call	PS/Com	JM/JC	Migrating with Silvereyes at PS
Varied Sittella	7	Com	JC	
Olive-backed Oriole	Up to 2	Widespread	Various	
Rufous Whistler	4, 3	PDD/PS	JF/JM	Present until end of April
White-bellied Cuckoo-shrike	1	Broulee/PS/Com	JM/JC	
Common Cicadabird	2 or call	PS/MKS	SMG/JM	Until end March
Grey Currawong	1	PS/Cool	JM/DO	
Dusky Woodswallow	12, 10	MO/Com/Cool	NM/JC/DO	
White-breasted Woodswallow	18, 15, 7	MO/PS/MHN	NM/JM/GC	
Rufous Fantail	4, 2, 1	PS/MB/MO/NA/ Bergalia/Broulee	JM/MA/NM/ JMG/DHK	Immatures at PS and MB
Spangled Drongo	2, 1	PS/MB/MHS/TS/ Cool	JM/MA/FM/ M Craig/DO	
Leaden Flycatcher	1	PS	JM	March
Restless Flycatcher	1	MO	NM	
Black-faced Monarch	2 or call	PS/TS/MB	JM/GM/MA	March
Little Raven	Up to 80, 3	Com/MB	JC/MA	
White-winged Chough	18, 12, 10	Com/PS/Cool	JC/JM/DO	
Rose Robin	2, 1	Com/MO/Cool	JC/NM/DO	
Flame Robin	9	Belowra	JC	Mainly females
Scarlet Robin	5	Belowra	JC	Mainly females
Tree Martin	80	Com	JC	
Silvereye	50, 40	PS/Com/ERBG	JM/JC/FM	
Mistletoebird	2	PS	JM	
Australasian Pipit	21	Belowra	JC	
European Goldfinch	13	Belowra	JC	

Non-avian species	**Number**	**Place**	**Observer**	**Comments**
Common Wombat	1 or signs	Com/Cool/MB	JC/DO/MA	
Short-beaked Echidna	1	PS/TS/MB	JM/GM/MA	

Long-nosed Bandicoot	Signs	Mossy Pt	HR	
Yellow-bellied Glider	1	Mossy Pt	HR	
Sugar Glider	Calls	Mossy Pt/PS/ Com	HR/JM/JC	
Common Ringtail Possum	2	TS	GM	Found dead
Common Brushtail Possum	4, 2	LP/Com/TS/PS/ Cool	IAG/JC/GM/JM/ DO	
Eastern Grey Kangaroo	44, 20	Cool/PS	DO/JM	
Red-necked Wallaby	7, 1	Cool/PS	DO/JM	
Grey-headed Flying-fox	10, 2	PS/Mossy Pt	JM/HR	
Seal sp.	Up to 6	BP	JM	
Humpback Whale	3	BP	GC	
Snake-necked Turtle	Up to 10	Com	JC	
Yellow-bellied Water-skink	2	Com	JC	
Eastern Blue-tongue	2	Com	JC	
Jacky Lizard	2, 1	Mossy Pt/PS/ Cool	HR/JM/DO	
Gippsland Water Dragon	Up to 6	Com	JC	
Lace Monitor	1	PS/Cool	JM/DO	
Death Adder	1	Deua	A Cram	
Red-bellied Black Snake	1 or 2	Com/PS/LP/ Cool	JC/HR/JM/IAG/ DO	

Frogs JC/JM/HR/DO/ FM	Common Eastern Froglet, Brown-striped Frog, Bibron's, Dendy's and Tyler's Toadlet; tree frogs: Brown, Eastern Sedgefrog, Jervis Bay, Keferstein's, Peron's, Tyler's, Verreaux's.
Moths JC/JM/HR	Varied Fraus, Bardi, Golden Leaf, Beet Webworm, Eggfruit Caterpillar, Bracken, Acute Point, Neat Epidesmia, Red-lined Geometrid, Twin Emerald, Cream, Flecked, Two-spotted and Clouded Wave, Mecynata, Subidaria, Native Cranberry, Red-spotted Delicate, Rufous Snout, Common Anthelid, Grey-headed Anthelid, Emperor Gum-moth, Double-headed Hawk, Triangle Hawk, Coprosma Hawk, Processionary, Banded Lichen, Variable Halone, Lichen-eating Caterpillar, Heliotrope, Magpie, Tiger, Beautiful Double-spot, Plain Pantydia, Green-blotched, Three-lined Snout, Triangle Owlet, Brown Pasture Looper, Tasmanian, Chevron and Variable Cutworm, Native Budworm.
Butterflies MA/JC/JM/ GLM/DO/HR/ DO/FM/ GM/ G Mendell	Splendid Ochre, Narrow-brand and Greenish Grass-dart, Orange Palm-dart, Orchard Swallowtail, Black Jezebel, Caper and Cabbage White, Dusky Knight, Brown Ringlet, Varied Sword-grass Brown, Common and Spotted Brown, Tailed Emperor, Meadow Argus, Australian Painted Lady, Yellow Admiral, Lesser Wanderer, Monarch, Common Grass Blue.
Dragon & Damselflies JC/JM/FM	Common and Aurora Bluetail, Wandering Percher, Blue Skimmer, Tau & Australian Emerald.
Beetles JC/JM	Net-winged, Dung, Green Scarab, Metallic Green Acacia, Three-lined Potato, Tricolour, Plague Soldier, Banded Pumpkin, Whirligig; Ladybirds: 26 and Common Spotted, White collared, Striped, Fungus-eating, Steel Blue, Yellow-shouldered, Variable.
Bugs JC/JM	Bronze Orange, Green Vegetable, Pale Cotton Stainer, Harlequin, Water Boatman and Water Strider.
Other insects JC/JM/HR/GLM	Bees: Blue Banded, Reed, Masked. Wasps: Common Paper, Orange Caterpillar Parasite, Blue Flower. Other: Yellow-winged Locust. Planarian Worm, Pied Lacewing.
Spiders JC/JM/FM	Spiny, Black House, Leaf-curling, Jumping, Huntsman, Daddy Long Legs, Golden Orb, Garden Orb-weaver, St Andrew's Cross, Flat Rock, Water, Grey House, White Porch.

RAINFALL (mm). March: 163 at LP, 327 at MKS, 291 at Bergalia, 362.5 at Com, 320.5 at Cool. **April:** 15 at LP, 6.5 at MKS, 12 at Bergalia, 16 at Com, 22 at MB, 15 at Cool. **May:** 82 at LP, 181 at MKS, 148 at Bergalia, 109 at Com, 140 at MB, 284.25 at Cool.

Contributors

MA	M Anderson, MB	IAG	I&A Grant, LP	FM	Field Meeting
DB	D Bertzeletos, Surfside	SMG	S&M Guppy, MKS		V Brown, ACT
GC	G Clark, ACT	DHK	D&H Kay, Bergalia		M Burk, DS
NC	N Clark, Surf Beach	GLM	G&L McVeigh, Broulee		M Craig, TS
JC	J&P Collett, Com	GM	G Macnamara, TS		A Cram, Deua R
JF	J Fearn, PDD	JM	J Morgan, PS		G Hounsell, Broulee
PG	P Gatenby, Broulee	DO	D Ondinea, Cool		G Mendell, TS
JMG	J&M Gordon, NA	HR	H Ransom, Mossy Pt		T&A Ross, NA
Places					
BB	Batemans Bay	ERBG	Eurobodalla Botanic Gardens	PDD	Percy Davis Drive, MYA
BBWG	Batemans Bay Water Gardens	LP	Lilli Pilli	PS	Pedro Swamp
BI	Bermagui	MKS	Maulbrooks Rd S, MYA	PP	Potato Point
BP	Burrewarra Point	MO	Meringo	SB	Surf Beach
Cool	Coolagolite	MYA	Moruya	SF	State Forest
Com	Comerang	MH	Moruya Heads, N&S	T'bella	Trunketabella
CO	Congo	MB	Mystery Bay	TN	Tomakin
DS	Durras	NA	Narooma	TS	Tuross
DY	Dalmeny	NP	National Park	WL	Wallaga Lake

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