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Otago Region Newsletter 1 /2021
January 2021

Ornithological Snippets

Jill Hamel was surprised to hear at least 2, and possibly 3, **Kingfishers** calling in the town belt in Dunedin between 1st & 24th November, having never previously come across them in the area. A look at the eBird map shows a record from February 2012 in nearby Sligo Terrace, but nothing since (apart from 1 reported on powerlines in The Octagon this time last year!?)

A fly-by **Long-tailed Cuckoo** was seen at Balclutha Lawn Cemetery on 9th December.

SIPOs Balclutha. Suzanne Schofield saw a single **White-fronted Tern** over the river in Balclutha on 11th January, while daughter Annie glimpsed a **Spoonbill** at high speed in a flooded paddock by the Taieri at SH1 on 8th January; another was flying past Balclutha on 18th.

Maree Johnstone came across 2 **Rainbow Lorikeets** at Sawyers Bay just before Christmas, presumably escaped or released birds. At Grahams Bush Maureen Howard heard what she took to be **Rifleman**, but the only bird she saw was a **Brown Creeper**, and she wondered if the latter also have a high-pitched call. The literature suggests otherwise, and presumably the creeper came to investigate her, while the Rifleman stayed hidden.

An article on the ODT on 14th January suggested that **Little Owls** were seldom seen in Otago, provoking several letters from readers to the contrary; hopefully these reports will end up on eBird!

Please send any interesting reports to cluthaphotos@gmail.com

Richard Schofield

eBird News

We have just over one month left of the second summer(?) Atlas season, and there are still plenty of squares with little or no coverage. North Taieri and Outram squares still have plenty of gaps, or if you have the chance to go further afield anywhere to the north and west is almost a blank canvas. The next field trip will be on **Saturday 6th February**, to the Lawrence/ Waitahuna area. Please contact me for further details.

Please check the Atlas Effort Map to see where the gaps are, or download the KML files from the Atlas webpage under “Handbook & Supporting Material”.

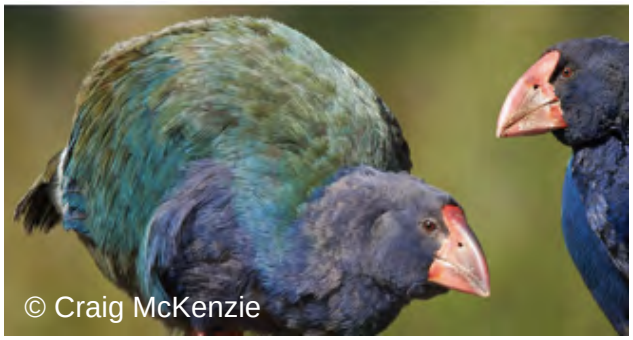
Richard Schofield cluthaphotos@gmail.com

BirdsNZ National News

Subscriptions 2021 – reminder!

The annual membership subscriptions for Birds NZ were due 1 January 2021. It is all too easy to overlook this during the Christmas New Year period. Remember that you can pay subs by direct banking online. Or ask your RR for a printed form. Thanks.
Mary Thompson, Regional Representative

Birds NZ Conference and AGM, Queen's Birthday, 5 - 7 June, 2021 Thames



The annual meeting of Birds NZ is being held in Thames at the Civic Centre. This is a great chance to visit a different and warmer part of NZ in the middle of winter.

There will be two days of presentations on recent bird research and a variety of field trips around the Coromandel area and to Pokorokoro Miranda to see where all our SI oystercatchers and wrybills go in winter.

Check out details and registration and accommodation options on the Birds NZ website www.birdsnz.org.nz/nz-bird-conference/ **Early Bird Registrations by 28 February**

Abstracts of talks and posters should be submitted to conference@birdsnz.org.nz no later than **28 February 2021.**

Otago Branch News

Catlins atlassing trip, Sunday 6 December

The weather was perfect for birding and the trip was a great way to end the 2020 birding year. There was 7 of us on this trip. We had a lovely drive down on a calm sunny morning, picked up Richard at Balclutha (who had already checklisted nearly 30 species while waiting), and arrived at Tautuku about 10 am. Franny had brought a rehabilitated kereru to release so that was the first job - hope it likes its new home. Lots of tui, bellbird and kereru around the Lenz Reserve cabin area, and swallows nesting under the eaves and a shining cuckoo was heard.

Gavin, who oversees the Forest and Bird trapping in the area, joined us for the 1 h walk through the lower part of the reserve. He reported seeing riflemen at a nest higher up the valley. The highlight of this section was a family of tomtits with 2 well-fledged young – they already had black wings with white bars but breast still motley. They could catch their own food but were also calling for food, which parents obliged with. Also spotted a young bellbird, but surprisingly no fantails. It was helpful to practise my bird call ID in the company of experts.

We had lunch on the Tautuku estuary boardwalk in the company of 2 spoonbill, stilts and mudcrabs and heard and saw several fernbirds. After lunch we split into two teams; one set off into the hinterlands of EG24 to complete coverage of the introduced finches and the other to

walk the King Rock track in EG25 and view seabirds from Picnic Point. We also counted waders in EF25, the Tahakopa estuary.

We looked and listened for cockatoos but no luck; Richard often encounters them when biking in the area. We would have liked to have checklisted a long-tailed cuckoo as these are now rare in the region, but as it happens, Richard saw one in Balclutha 3 days later!

Mary Thompson

George and Doreen Grant Notebook project: Call for volunteers

Peter Schweigman received from Doreen Grant a notebook with a large number of observations of birds that Doreen and her husband George made throughout the Southern South Island during the 1980's and 1980's. These observations come in about three types. One is a large set of general observations for various species from through out the South Island. Second is a large set of observations of cattle egret from the Taieri Plains and elsewhere. Third is a similar set of observations for black fronted dotterel which in the 1980's were breeding on the Taieri River near Outram.

The object is that I want to digitise the data and enter it into eBird. For the cattle egret and black-fronted dotterel the data I think that there is enough data to investigate a formal analysis and write up. There is potential to cross check these observations with the already published records in the Classified Summarised Notes of the day.

The notebook has been scanned and now needs to be entered into a spreadsheet. Each

page is a separate file so the work has been broken down into bite sized chunks. This a project designed for evenings and wet Sundays. I've identified all the easy pages for volunteers and have got a template of how the data needs to be entered.

If you would like to give a hand for this work give me ring and we will sort out how to get you started. You will need to have an internet connection and a willingness to work with excel.

Bruce McKinlay 027 3891477

Robin nest hunting - the chase is on!

I first got hooked on robins while observing their inquisitive and friendly nature in Orokonui so it has been especially exciting seeing them thrive outside of the Ecosanctuary limits during monitoring trips with the Mopanui Robin project. A key part of the project is locating the robins' nests and then monitoring them until the chicks fledge or the nest fails. However, finding a robin's nest isn't exactly a walk in the park! It's more like a bash in the bush…or a walk around in circles!

Planning out our day

The general idea is to go to the territory of a known pair, equipped with plenty of mealworms and then clap until a robin (usually a male) appears. Once you throw your robin some mealworms he will likely scoff the first couple before holding a few in his bill. Be careful though - these greedy wee fellas will often refuse to leave until their extreme cuteness has led you to part with 5 mealworms! Considering that mealworms are a precious commodity, this is not ideal. The trick is to wait until they have 2 in their bill and then hold your ground. Eventually he will fly off with his hard-earned lunch and this is when the wild goose chase begins. Through thick vegetation you must follow your robin

until he leads you to his nest where the female can be found sitting on eggs/nestlings or flitting around nearby. This journey will likely include losing sight of the robin several times, plenty of further mealworm feeding bouts and multiple red herrings where potential nest sites end up being caching spots for the male to hide his treasures for later.

A pair of robins sitting below their nest site

Having two or three people on the job is useful as you can spread out and be ready to observe the robin's path from different vantage points. It also helps when the male is a good father and consistently returns to the nest to feed his female or chicks. Once you manage to pinpoint your robin to a certain area the nest will often be well-hidden or balancing rather precariously 3-5 metres off the ground in a tree or tangle of branches. Binoculars will come in handy! All in all, you'll find that discovering a robin's nest is a very satisfying experience and certainly makes the chase well worth it!

Myrene Otis

Tern on the Mole 15 December 2020

The male only came back once with one offering while I was there - maybe the fishing was't good. Chicks were quite lively.

Janet Ledingham

Rock stack with grey-faced petrels at Rapanui, North Taranaki Coast

Bird notes from Graeme Loh

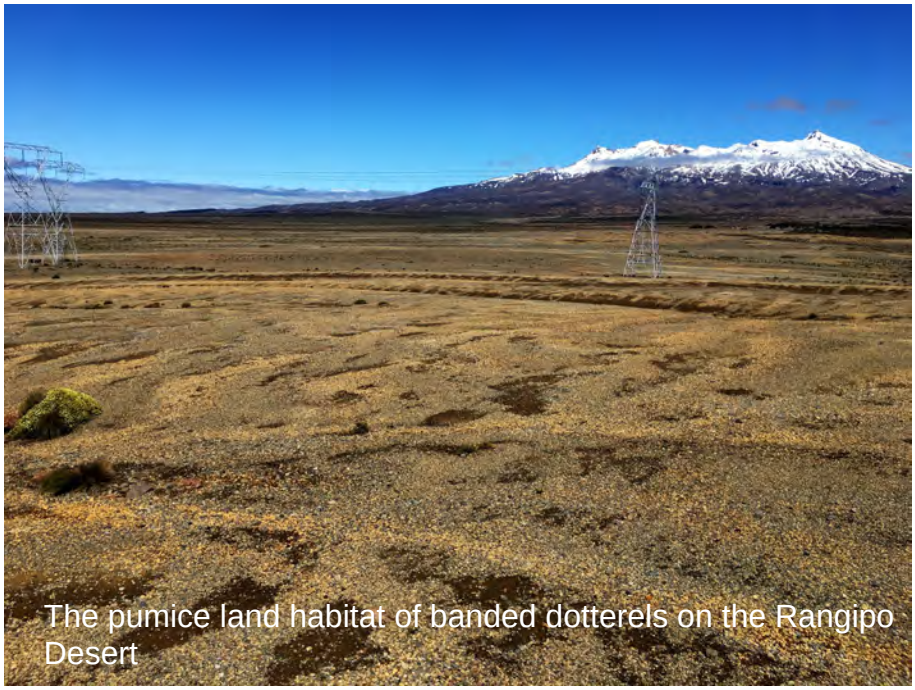
Sue Maturin and I went on tour of the Central North Island volcanic landscapes.

Highlights were all the lakes with dabchicks. When will we get them back down here again? The grand trees of Whirinaki with kaka wheeling around them and a lawn campground with whio swimming by each evening. Revisiting the grey-faced petrel colony at Rapanui, north of the Mokau River mouth. This mainland remnant colony was predator proof fenced in 2003 and when I visited associated with the OSNZ conference in Wanganui in winter 2003 there were just eight pairs in burrows. Now there are more than two hundred pairs. In November the chicks are large and developing feathers. Their burrow infested with fleas that ate me.

Part of the success of the colony is probably due to the adjacent rock stack pictures which is a safe refuge for the petrels from all mammals. However the coast is soft and rapidly eroding. One end of the fence has gone over the edge and the Peter Fryer and Evan Lobb are grappling with how to remedy that.

Rangipo Desert Dotterels

We went to the Rangipo Desert on the east side of Ruapehu next to the Waiouru military area. Roaming around the pumice we found tenpairs of banded dotterels. Nice to see them persisting in what we now regard as an unusual habitat, but concerning that no juveniles were seen and no territorial defence behaviour displayed.



The pumice land habitat of banded dotterels on the Rangipo Desert

The human zoo at Mt Maunganui was quite lively but variable oystercatchers and NZ dotterels were doing their thing in small fenced patches of beach among us. Both humans and birds can adapt!

Paul Gasson's dog Dillon on point at an occupied sooty shearwater burrow on Sandfly Bay east headland

Prion burrows collapse in the New Year rains

As this newsletter goes to press the prion chicks are fledging and the sooty shearwaters chicks are hatching. The natural burrows of the Prion Cliff colony suffered when we got the average rainfall for January in the first two days. More than ten burrows slumped and collapsed and the smell a few days later indicated that the chicks there had died. Scratching at the old entrances showed the parents attempted to reopen their burrows, mostly in vain.

I saw a strange thing off Maori Head 15 Jan 2021. An adult black-backed gull was viciously attacking another similar sized bird on the water, pecking at the rump and holding its head underwater. Swimming out I discovered that it was a juvenile gull, greatly weakened, rump meat exposed and wounded. Others were wheeling around screaming.

Sparrows

I am sure there are far more sparrows (house) than there used to be, and in a greater range of habitats, some of them quite wild now with no buildings anywhere. They are numerous in the Central North Island. I was reminded of this today (22-1-2021) by their chirping out of a small thicket of small Hebe bushes on the cap of the rock stack off the end of Heyward Point. The only terrestrial bird recorded on the stack today. The concentrations of pupping fur seals and nesting black-backed gulls have suppressed the exotic herbs such that there is almost a shrub land of Otago's endemic Lepidium crassum on this stack now.

It will be interesting to see if the atlas data will be good enough to assess whether there has been a change in the status of sparrows. Paddling from The Mole to Heyward Point we saw no tube nose seabirds. The main activity was about a hundred black-backed gulls spread across the bay attending small clusters of Munida krill. Nice to see them getting wild food rather than our rubbish and discards.

Falcon database

I have become reasonably proficient in loading spreadsheets of banding and recapture records into the new database. Michelle Bradshaw has been very patient and thorough in responding to feedback and dealing with problems. It is worth the effort to use (as well as being compulsory!). The single record entry facility is easy to use. I am happy to give people a hand with their data entry. It is a bit like doing bulk loads to eBird.

Notice: World Seabird Conference III

Perhaps in Hobart in October 2021.
The conference was planned for October 2020 but Covid and Scott Morrisons' mismanagement got in the way. It was rescheduled for October this year but I see that reality is creeping in and options for an online conference are being canvassed. There is an opportunity to put your findings on an international stage. I intend to present the prion fledging weight data from the last sixteen years in the Marine Heatwave Symposium

Notice: **Oamaru Penguin Symposium** 2020 was tentatively rescheduled for May 2021. Contact "Philippa Agnew" <research@penguins.co.nz> for an update.

New royal spoonbill colony at Pegasus Wetlands

Bev Alexander (Canterbury) and Ann Charlotte (Otago) have seen spoonbills at Pegasus, a new town in the Waimakariri District of Canterbury, 25 km north of Christchurch.

Spoonbills turned up at Pegasus Wetlands last season and possibly nested, and again there is lots of action this season. The photo was taken by Grant, who is a member of the Ashley/ Rakahuri Rivercare Group and has used a drone for photographing tern & gull colonies for nest counting. Bev reports the spoonbills took no notice of it when it was flying over, and even a harrier that flew between the drone & spoonbills was not worried.

The photos were taken on 10 December 2020. There appears to be a few nests, especially in the lower middle part, but most of the birds are just perched in the bushes and trees.

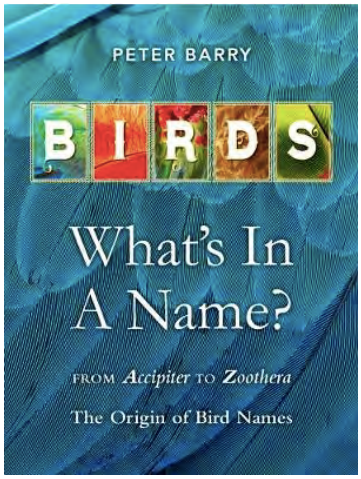
The local team is keeping an eye on the colony to see if nests progress to chicks.

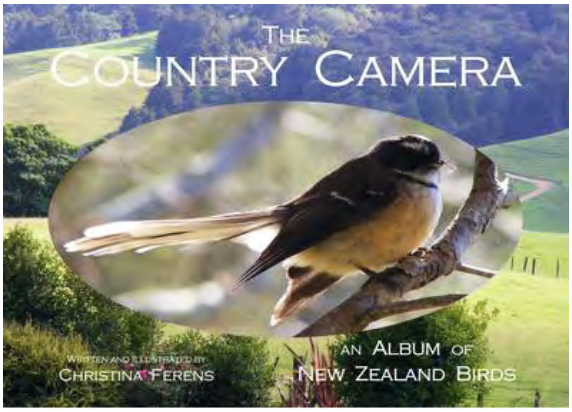
A plucky pipit/pīhoihoi (Anthus novaeseelandiae) out hunting for bugs in the cool evening at Mt Ruapehu. They are adept hunters hardly lifting off the ground to pounce on flies and moths. Interesting to see the pronounced hind claw. Note the white eyebrow

Bar-tailed godwits/kuaka (Limosa lapponica) at Foxton Beach. When you see them side-by-side it is amazing how much longer the bill is on females, they also tend to be a bigger bird.

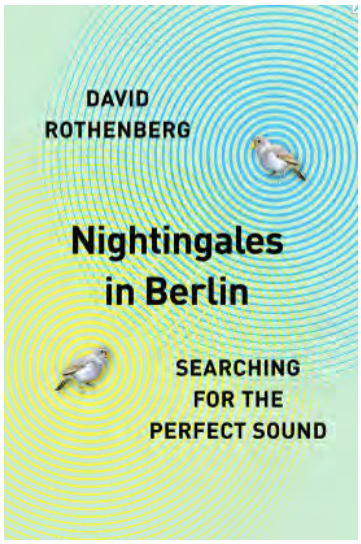
Bird books added to Dunedin Public Libraries' collections in 2020

Bird, by Erik Anderson
Bird love : the family life of birds, by Wenfei Tong
The bird way, by Jennifer Ackerman
Birding Australia's islands, by Sue Taylor
Birds : the art of ornithology, by Jonathan Elphick
Birds : what's in a name?, by Peter Barry
Britain's birds, by Rob Hume
The country camera, by Christina G. Ferens
Crazy for birds, by Misha Maynerick Blaise
Drawn to the wild : paintings of New Zealand birds, by Nicolas Dillon
Every penguin in the world, by Charles Bergman
The falcon thief, by Joshua Hammer
Feed the birds, by Chris Earley
Feeding the birds at your table, by Darryl Jones





Flight lines, by Andrew Darby
Greenery : journeys in springtime, by Tim Dee
A history of birds, by Simon Wills
How to know the birds, by Ted Floyd
Migration, by Melissa Mayntz



My penguin year, by Lindsay McCrae [also available as an audiobook]

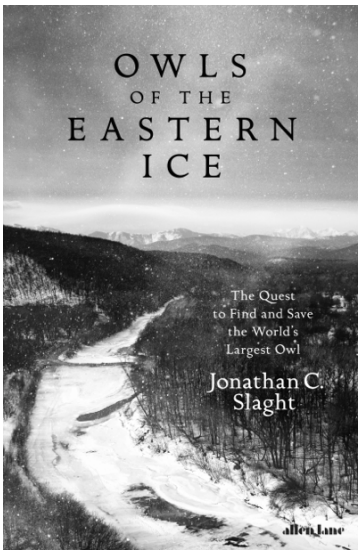
A naturalist's guide to the birds of Australia, by Dean Ingwersen

A naturalist's guide to the birds of New Zealand, by Oscar Thomas

Nightingales in Berlin, by David Rothenberg

100 birds to see in your lifetime, by David Chandler & Dominic Couzens

Ospreys, by Tim Mackrill



Owls of the eastern ice, by Jonathan C. Slaght

A season on the wind, by Kenn Kaufman

A shadow above : the fall and rise of the raven, by Joe Shute

Urban aviary, by Stephen Moss & Marc Martin

What it's like to be a bird, by David Sibley

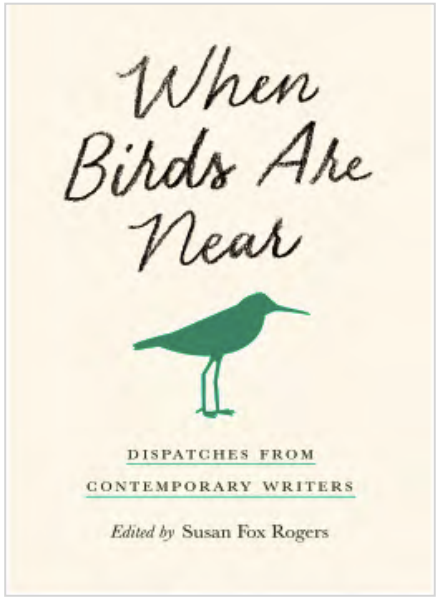
When birds are near : dispatches from contemporary writers, editor Susan Fox Rogers

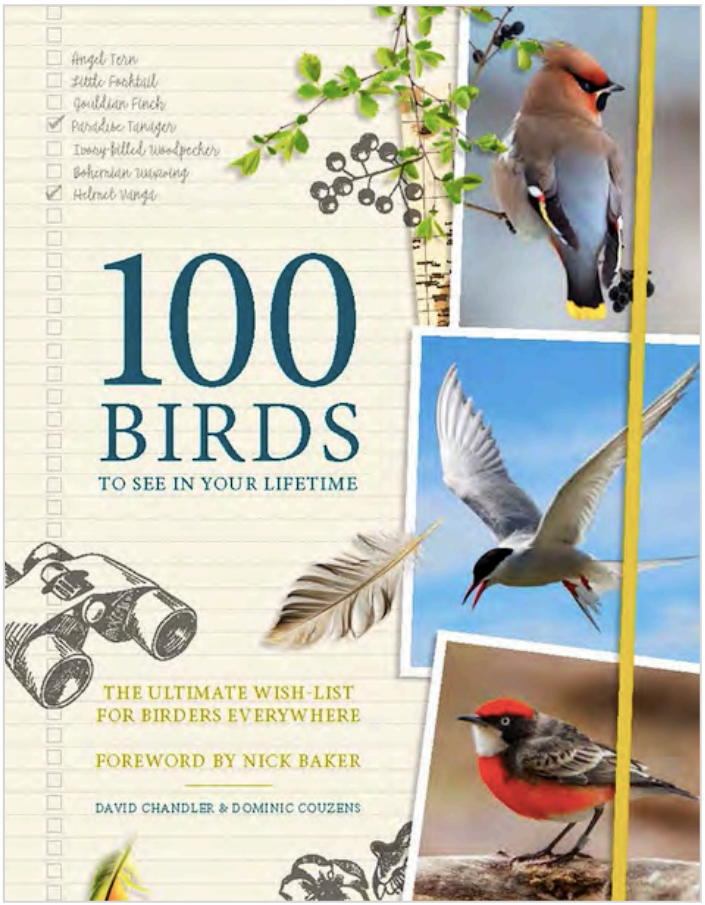
White feathers : the nesting lives of tree swallows, by Bernd Heinrich

Wintering : a season with geese, by Stephen Rutt

World of birds, editor Simon Papps

Alan Baker



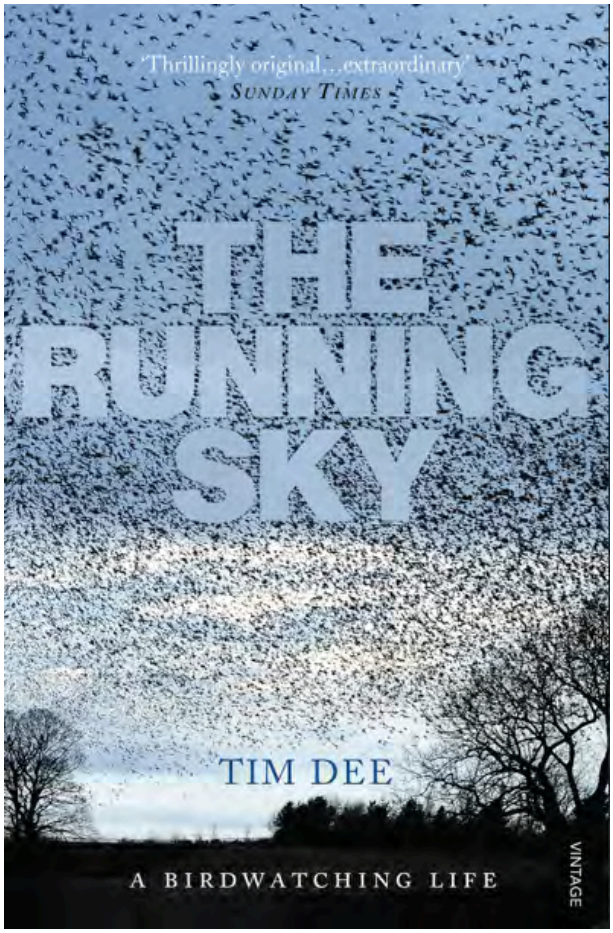


Book Review

The Running Sky

Tim Dee

Published by Penguin Random House



I have to acknowledge that I enjoy reading British birding books and this one by Tim Dee has to be one of the best I have read. Tim has worked for the BBC as a radio producer. He knows his birds and he knows how to write about them.

When I am reading a book, I often underline passages that make an impression on me, and this book has much underlining. Here's an example—he is writing about migration: *Migration cannot but seem a mystery. ..... But migration eludes us more than ever. We begin to be able to explain it, but because in our time we feel it less and less, we cannot grasp it. We couldn't do it and we cannot fathom how birds can. Its reality is as hard to hold as any idea of it.*

The book is divided into twelve chapters, one for each month of the year and starting with June in the northern hemisphere summer. For each month he has beautiful stories of many species. Reading it reminds me of how fortunate UK birders are with the wide range of species that they can see thanks to the islands being on the spring and autumn migration routes for many species. My favourite chapter was September when he focuses on the times that he has spent on Fair Isle between Orkney and Shetland. Marita and I spent five days on Fair Isle a few years ago and would love to return. It is a mecca for birders during the migration months.

However, birds in the UK also are under pressure and he recounts many examples of species whose numbers are dropping and the reasons for this. The threats on birdlife are not just unique to New Zealand. The reasons for the declines in the UK are not driven by introduced predators as here in New Zealand but they share with us the problem of ever-reducing habitats, the impact of climate change and the pressures created by human population growth.

I can recommend this as an interesting and easy to read an understand book.

Warren Jowett

Bird News

International Wader Study Group

Spotlight: Drone vs. human surveys of breeding shorebirds
Can machines replace humans?

Article authored by Deborah Buehler

Posted by Gwenaël Quaintenne on 4 January 2021

It's a thought-provoking question. Especially at moment when machines – and algorithms more broadly – are increasingly impacting our lives[1]. However, one might understandably say that further clarification is needed. What type of machines? What task is to be done?

In this issue of Wader Study, Roberto Valle and Francesco Scarton highlight the nuanced way this question could be answered[2]. Of course, they don't ask whether machines can replace humans, exactly. They just want a safe and accurate way to count nesting shorebirds and they wonder if machines might help. In this case, the machines are unmanned aerial systems, also known as 'drones', a name that may be an onomatopoeia for the mosquito-like noise they make. Drone technology can be useful as well as annoying. Many fields of study have used drones from military intelligence, to civil engineering, to archaeology, to mining; and wildlife biology is no exception[3]. If you had to count something, in inhospitable territory, wouldn't you send in the drones?

Valle and Scarton needed to count breeding pairs of their study species, Black-winged Stilts *Himantopus himantopus* and Pied Avocets *Recurvirostra avosetta*. These birds make nests in difficult-to-reach saltmarshes in the Lagoon of Venice, a 55,000 ha coastal wetland in northeastern Italy. The lagoon is the largest in the Mediterranean Sea and the area is full of soft mud and tidal channels, both of which are easier to fly a drone over than to walk on.

Saltmarshes in the Lagoon of Venice in northeastern Italy (photo: Roberto Valle)

However, before sending in the drones, Valle and Scarton needed to know that the technology could accurately and safely count the birds. Therefore, they compared the safety and effectiveness of drone-conducted counts with traditional ground-based counts.

The researchers conducted fieldwork from mid-April to mid-June during the 2017 and 2018 breeding seasons. Surveys were restricted to days with windspeeds less than 10 km/h and no clouds because, although human researchers often work in wind and rain, drones require better weather. Drone and ground surveys took place at 52 colonies over the two years, always either in the morning from 8 am to 10 am or in the afternoon from 4 pm to 6 pm to avoid extreme temperatures.

The safety of the birds was top priority, especially since drones are a newer technology. Therefore, the researchers launched drones from sites more than 150 m from the study colony and then flew at a height of 70m until they were directly above the centre of the colony. This ensured that the drone wouldn't disturb the birds before the survey had started. Much like humans, birds don't like it when things plummet vertically towards them. For this reason, the researchers used the "lawn mower" pattern, systematically flying back and forth, to lower the drones when it was time to begin the survey.

Once the drone was lowered to about 30m, the pilot could see the nests, but couldn't be certain whether there was a bird present at the nest. Thus, the researchers lowered the drone a further 10 to 20 m. At this height, they flew above the nests at a speed of 15 to 30 km per hour, causing any birds to flush (fly away) from their nests. Disturbing the birds was necessary to record reactions to the drone. These reactions were coded in the field or later from videos as follows: birds sitting on or flushing from a nest were considered a breeding pair, birds strongly reacting to the drone by chasing it were considered probable breeders, even if far from a nest, and the researchers counted one pair for every two birds behaving this way.

During each drone flight, a researcher observed the colony from approximately 150 m to check whether nests or young were in danger of predation after the adults were flushed from the nests. Thirty minutes later the researchers approached the colony on foot for the ground survey. During a ground survey, two researchers walked abreast about 10 m apart systematically searching for nests. Every nest with eggs or chicks was recorded as 'confirmed breeding'.

Ground surveys were always done after drone surveys even though the researchers admit that this is a limitation in terms of the comparison of methods. A completely fair comparison would have randomized the order of the surveys. However, in this study, randomization was intentionally traded for the ability to use the ground survey as a safety check on the preceding drone survey.

The researchers found no evidence that drone surveys cause undue disturbance to birds. Birds were not scared permanently from their nests, nor were the nests exposed to predators. In fact, the drones caused less disturbance to the birds than humans on the ground. Drone surveys also took less researcher time, even accounting for post-processing work in the lab after drone surveys.

Drones were therefore safe and efficient, but were they accurate? Unfortunately, no. Valle and Scarton found that fewer breeding pairs were identified during drone flights than ground counts. This undercounting was substantial, with 18.1% of Black-winged Stilt pairs and 20.5% of Pied Avocet pairs missed during the drone surveys. Furthermore, drone surveys had less sensitivity (true breeding pairs identified as positive), specificity (true non-breeders identified as negative), and accuracy (correctly identified birds divided by the total birds seen).

This study shows that there are pros and cons to using drones when surveying nesting shorebirds. Drones did not detect as many nests as ground surveys and falsely identified some

nests; however, the drone surveys caused less disturbance to the birds. These results raise the question of whether accuracy could be improved with improved drone technology or whether drones could be useful under some, if not all, circumstances?

Valle and Scarton admit that a limitation of their study was the type of drone used. It was a simple model with a standard camera. A larger drone with a higher quality camera might have provided better images and allowed the researchers to distinguish incubating birds from a higher altitude without flushing them from nests. This might improve accuracy while further decreasing disturbance to the birds, but this remains to be tested.

The researchers also found that the size and composition of the breeding colony mattered. In large, mixed colonies, birds flushed when the drone was still quite far away in response to alarm calls from only a few species. For example, the presence of Eurasian Oystercatchers *Haematopus ostralegus* made this worse because they are very aggressive towards drones. This contributed to undercounting because it was more difficult to identify breeding pairs when the adults were no longer at their nests. Furthermore, if nesting birds were flushed out of sight of the drone pilot, they weren't counted. The opposite was also a problem, if the same bird repeatedly chased the drone, within the line of sight, it could be double counted.

Eurasian Oystercatcher reacting to drone. (photo: Roberto Valle)

Knowing that large, multi-species colonies contributed to errors in the drone surveys, the authors asked whether drones might be most useful for smaller colonies of mainly silts and avocets. This was indeed the case. The authors found that both the sensitivity and specificity of the drone surveys were increased in small colonies and that in these circumstances there was nearly perfect agreement between the drone and ground survey methods.

So, can machines replace humans? It's a question best answered with context taken into account. In this study, the machines are drones and the task is counting breeding shorebirds. The authors recommend the use of drones only in small colonies without species, like Eurasian Oystercatchers, that react more strongly to drones. In these circumstances, drones provide high accuracy, low disturbance, and shorter time to complete a survey. In other circumstances, the authors do not recommend the use of drones.

More broadly, context becomes even more important when asking whether, when and how machines might replace humans. Our world is full of technologies that were unimaginable less than a generation ago. Yet we use these technologies daily and they affect all aspects of our lives[4]. Machines can do many things better than humans, but there remain many things that humans can do better than machines. We can be empathetic, we can question our own biases, we can use our humanity to fight against rules that shouldn't be automated[5]. This study reminds us that striking a balance where context is taken into account may be the best way to synthesize the strengths of both our machines and our own human minds.

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Valle, R.G. & F. Scarton. 2020. Feasibility of counting breeding Pied Avocets and Black-winged Stilts using drones. *Wader Study* 127(3): 257–265.
Hodgson, J.C., R. Mott, S.M. Baylis, T.T. Pham, S. Wotherspoon, A.D. Kilpatrick, R.R. Segaran, I. Reid, A. Terauds & L.P. Koh. 2018. Drones count wildlife more accurately and precisely than humans. Methods in Ecology & Evolution 9: 1–8.
Deibert, R. 2020. Reset: Reclaiming the Internet for Civil Society. House of Anansi Press, Toronto, Canada
Kantayya, S. (Director). 2020. *Coded Bias* [Documentary film]. Trailer available at https://www.youtube.com/watch?v=jZl55PsfZJQ

https://www.waderstudygroup.org/news/spotlight-drone-vs-human-surveys-of-breeding-shorebirds/

Programme for 2021

Monthly Indoor Meetings will be held on the 4th Wed at 7.30pm in the Benham Seminar Room, Benham Building, Department of Zoology, 340 Great King Street.

Wed 24 February	Abby Smith Birds of down-east Maine.
Wed 24 March	Oscar Thomas Birding from The Chathams to Here.
Sat 24 April	**Tomahawk Lagoon Bird Watching, 10 am to noon.** This is our event for Wild Dunedin Festival; we plan to have telescopes to let the public see birds close-up and we will help identify them Contact Andrew if you can help; phone 454 5830
Wed 28 April	James Hunter Chasing takahe and making maps.
Wed 26 May	Scott Forrest Understanding the movements and behaviours of the Orokonui kaka.
Wed 23 June	Myrene Otis The foraging ecology of Tawaki in Milford Sound.
Wed 28 July	Georgina Pickerell The Robins of Mopanui.
Wed 25 August	Lara Urban Using DNA analysis to help conservation of takahe and kakapo.

Suggestions of locations for field trips and atlassing trips, and offers to help lead trips would really be appreciated, please contact Mary birds.otago@birdsnz.org.nz

Please send all contributions for the January newsletter to: Sue Odlin
sodlin@gmail.com

Many thanks to all who contributed.

Final date for copy for next newsletter: **17 February**