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BIRDS NEW ZEALAND

Te Kāhui Mātai Manu o Aotearoa

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We welcome advertising enquiries. Free classified ads for members are at the editor's discretion. Articles or illustrations related to birds in New Zealand and the South Pacific region are welcome in electronic form, such as news about birds, members' activities, birding sites, identification, letters, reviews, or photographs. Copy deadlines are 10th Feb, May, Aug and 1st Nov. Views expressed by contributors do not necessarily represent those of OSNZ (Inc) or the editor.

COVER IMAGE

Erect-crested Penguin, Kaikoura. Photo by Mike Ashbee
www.mikeashbeephotography.com

From the President's Desk

Council Meeting

The Birds New Zealand Council met in February in Christchurch and again at the end of May. At the February meeting we considered our progress on developing our Health and Safety resources and commissioned work on developing a hazard register for the activities we undertake. We received a report from Mike Bell on progress with the design of the New Zealand Bird Atlas; adopted the Conservation Policy Statement; and evaluated the need for three meetings a year as a possible cost savings measure. There is a fuller report on the Bird Atlas on pages 10-12 of this edition.

Society Secretary

It was with considerable sadness that I recently received a letter of resignation from the Society's Secretary Denise Fastier. This is a sad loss as Denise was an extremely effective Secretary and we will miss her energy at the Council table. We have arranged temporary cover, but Council would like to co-opt a permanent replacement as quickly as we can. If you would like to join Council in this important role please either give me a ring or send me an email to discuss what it means.

Changes on Council

The formal announcement of changes to Council occurred at the AGM but I would like to acknowledge the contribution made by Helen Taylor and Sharon Alderson in their respective time on Council. Both retired at the end of the AGM in Wellington. Sharon has made a real difference through her work in the establishment of the Society's Youth Camps and helping to strengthen governance of the Society, and Helen has worked so hard leading the rebranding of the Society and the development of the new website. Thank you both. Colin Miskelly has rejoined Council to carry on his good work: thank you Colin. Eleanor Gunby (Canterbury) and Josie Galbraith (Auckland) have joined Council.

Finance Sub-committee

The Society is incredibly active at the moment and Council wants to build on this momentum to grow our Society into the future. To be successful in this requires good ideas and projects, but also sustainable finances. Recent projects have been funded through our partners T-Gear Charitable Trust and 'Goodness Kitchen', and also through Society Reserves. Council is concerned that this is not sustainable and that we need to have a more long-term strategic approach concerning our income generation and how to ensure that the funding of Society activities is sustainable. Part of this as I discussed in my last column is ensuring that subscriptions are paid on time. To support the Treasurer in taking a more strategic approach, Council has established a Finance Sub-committee with the purpose of developing a strategic overview of the Society's finances and a view to ensuring that the Society is sustainable and viable in the long term. The Sub-committee recently met and identified some tasks to start this work. Contributions from Society members on how we might approach this task are welcome.

***Notornis* Survey**

Council conducted an electronic survey at the end of 2018 to investigate how members are using our scientific journal, *Notornis*. Council wanted to gain a broad overview of how useful our members find the journal, and the preferred method of access to it. The survey was completed by only 371 members, with the majority (65%) of respondents regularly reading at least part of *Notornis*. The journal is viewed generally in a positive light, and received an overall 'enjoyment' rating of 67 out of 100. Our members involved in ornithological research find it to be a valuable resource, with some of our general members commenting that the journal is 'too scientific or technical' for them to enjoy. While there is a willingness among some members to switch to online-only options if it will help the Society reduce costs, generally our membership would prefer to continue receiving the hard copy quarterly. Council does not intend to make any changes to the distribution of *Notornis* but these results will allow us to track the changing needs of our membership over time.

Library

I've recently received copies of two scientific journals. *Bird Study* is published by the British Trust for Ornithology, with a focus on field ornithology mainly within the Western Palearctic. *Ornithological Science* is published by the Ornithological Society of Japan and has a wider focus on science, covering all aspects of ornithology. These, and other ornithological publications from around the globe, are available through the Society's library at Auckland Museum. I encourage you to look up the list of available periodicals http://osnz.org.nz/borrowing-birds-new-zealand-books-periodicals and to email Trina Smith, our Librarian, to gain access to them via library@osnz.org.nz She is looking forward to the Society's library resources having more usage by the membership. It is one of the most significant collections of ornithological science in the country, so please put it all to use.

Finally, the group of Royal Spoonbills roosting at Andersons Bay Inlet has been gradually getting smaller as individuals head off on their northward migration. After a hard day chasing a mouse around my desk at work it is the stuff of envy to see them looking so relaxed on the bird roost at high tide or undertaking an easy forage at mid and low tides. I'm sure that they will enjoy their winter in the north before coming south again.

AOC 2019 Student Travel Grants

The Australasian Ornithological Conference (AOC) is a biennial conference hosted jointly between Birds New Zealand and Birds Australia. The 2019 AOC will be held in Darwin from 3 to 5 July. Birds New Zealand offers travel grants to assist postgraduate research students from New Zealand to present their findings at the AOC.

Two travel grants are offered every two years: $500 (if the AOC is held in New Zealand) or $1,000 (if held in Australia) each. A travel grant is awarded once to any one person. Successful applicants are expected to write a short report on their conference experience for publication in Birds New Zealand and/or submit an article to *Notornis*. To be eligible, applicants must be current Birds New Zealand members and postgraduate students at the time of submitting an application. Applications for travel grants are open now and close on 1 August 2019

▲ Upland Sandpiper was the first rare bird report accepted for NZ (1967). Photo by David Rintoul/New Zealand Birds Online.

'Another Unusual Birds Report from Auckland Museum'

Over three days in November 2018, Paul Garner-Richards and I visited Auckland Museum to read through the archived Birds New Zealand (OSNZ) Records Appraisal Committee (RAC, formerly Rare Birds Committee) historic submissions and correspondence. The aim is to create an electronic searchable database of all submissions and final decisions for the RAC. This follows on from a week-long trip in 2013.

This type of electronic database will enable members to have access to earlier submissions for scientific investigation or resubmission without having to access Auckland Museum. It will also allow the RAC Convenor, Checklist Committee or any OSNZ member to determine the number of unusual sightings and range of species that have reached New Zealand (or their region/s). This has been fascinating work, going through the old records and seeing who saw what and when. There have been some amazing sightings – Buff-breasted Sandpiper and Manx Shearwater as well as terns and penguins of all shapes and sizes. There is plenty of controversy with Laughing Owl, Bush Wren, South Island Kokako and even Haast's Eagle reports.

Martin Collett (Auckland Museum) was a huge help, providing space in the Reading Room, introducing us to all the relevant staff, and making sure all the archived boxes were available to us. Now I have over 500 files to catalogue and turn into PDF files. We have a few more submissions to track down, but we are getting there and shortly there should be a fantastic database for the membership to be able to check up on all those weird and wonderful birds that various observers have been reporting around New Zealand since the first one (Upland (Bartram's) Sandpiper) was accepted in 1967.

ELIZABETH (BIZ) BELL, RAC SECRETARY

Benefits of Membership

You can join Birds New Zealand today for just over a dollar a week. The subscription fee of $70 per year is very reasonable; for students it's just $35 per year (see www.osnz.org.nz for more details). Members receive Birds New Zealand magazine, our quarterly colour magazine, and *Notornis*, our acclaimed quarterly colour scientific journal. To join us, please visit our website and fill out the online membership form: www.osnz.org.nz
Or contact our Membership Secretary: membership@osnz.org.nz
Or contact your nearest Regional Representative via: www.osnz.org.nz

New Members

Birds New Zealand warmly welcomes the following new members: Patrick Miller (Northland); Phil Smith, David Houston, Lesley Smith, Kyle Sutherland, Jonathan Mower, Mehrnaz Tavasoli, Ines Moran, Yen Yi Loo (Auckland); Kayla Purvis, Chelsea Ralls, Mark Caunter, Kathryn Ross (Waikato); Iain Kelman, Sharon Kelman, (Gisborne/Wairoa); Simon Hill, Joan Ruffel (Hawkes Bay): Sahar Firoozkoohi, Nicole Sutton, Debbie Fogell (Manawatu); Jessica Randall, Alison Balance, Kevin Hague (Wellington); Sally Bentley, Jean Jack, Fraser Gurney, Sion Cooper, Israel Cooper (Canterbury); Myrene Otis, Saif Khan, Vicky Clayton (Otago); Peter Blakie, Jane Tansell (Southland).

RAC Report 2018

The online Unusual Bird Report (UBR) reporting system on the Birds New Zealand website is working well, and is the main source of UBRs received. Receipt of UBRs is acknowledged promptly by the RAC Secretary. Batches of UBRs are sent to the committee members every 2 months, and they then have 2 months to provide comment. All RAC members reliably kept within deadlines during 2018. Response letters were typically sent out 3-5 months after UBRs were received. A total of 124 UBRs was received in 2018, and assessed between March 2018 and February 2019. This is the largest number of submissions received by the committee in a single year. Ninety-eight (79%) of these UBRs were accepted by the committee. One new species (Macquarie Island Shag) was added to the New Zealand list.

An online database of Unusual Bird Reports (http://rare.birds.org.nz/) was launched in 2016. The database and the systems supporting it continue to work well. The database provides almost immediate feedback on UBR submissions and decisions, as well as a searchable database of all submissions and decisions dating back to the 1960s. It includes links to publications referring to individual UBRs, and to NZ Birds Online pages.

A paper reporting on the 221 RAC decisions from 2017-18 is in preparation for *Notornis*. I thank Biz Bell, Paul Sagar and my fellow committee members for their efficient support during 2018. Current RAC membership is Colin Miskelly (Convener), Andrew Crossland, Ian Saville, Ian Southey, Alan Tennyson. Elizabeth (Biz) Bell is the RAC Secretary, and continues to provide timely and efficient administrative support to the committee and submitters. Paul Sagar is a co-opted member of the committee, and provides independent assessment of Unusual Bird Reports (UBRs) submitted by RAC members. This occurred 21 times in 2018.

COLIN MISKELLY, RAC CONVENER

Beach Patrol Report 2018

The process of transcribing all of the beach patrol cards and forms into the online database has been completed. 2018 produced no significant wrecks and no particularly unusual species. Only one banded bird was noted on cards, a Short-tailed Shearwater picked up on Oreti Beach, Southland. The returns compared to the previous year show a slight increase in cards, kilometres and bird numbers. The figures as at 22nd March 2019 are as follows:
Cards or forms returned: 242 (230 in 2017; 253 in 2016; 210 in 2015; 231 in 2014; 262 in 2013; 324 in 2012 and 352 in 2011).
Birds: 2,919 (1,315 in 2017; 1,483 in 2016; 1,325 in 2015; 1,388 in 2014; 4,851 in 2013; 1,924 in 2012 and 57,920 in 2011)
Kilometres: 940.7 (885.3 in 2017; 1,189 in 2016; 1,014 in 2015; 1,069 in 2014; 1,388 in 2013; 1,625 in 2012 and 1,846 in 2011)

LLOYD ESLER, BEACH PARTOL SCHEME CONVENER

Band returns deadline extended

An extension to 31 May has been granted for banders to submit their band returns, which need to be formatted to the new Version 9.2 data template available from www.doc.govt.nz/our-work/bird-banding/

Please submit records of all bands you have in stock and any bands transferred to other banders for training, lost etc. Anyone aware of records of resighted or recovered banded birds not yet reported are encouraged to submit them. An update of banding records received will be provided during the Birds New Zealand Conference in June. If you have any queries regarding how to complete your band returns, please contact the Banding Office at: bandingoffice@doc.govt.nz

MICHELLE BRADSHAW

Bar-tailed Godwits photo by Toby Ross.

Foraging ecology of Bar-tailed Godwits after migration

Bar-tailed Godwits are a size-dimorphic shorebird species in which females are larger than males. This pattern is reflected in their bill lengths; male bills range from 7 to 9 cm whereas female bills range from 9 to 13 cm. As these birds forage predominantly on mudflats, bill length variation may limit certain prey type availability especially for shorter-billed birds. This could possibly result in a systematic foraging pattern of prey choice and intake rates across the bill length spectrum.

Bar-tailed Godwits migrate between Alaska and New Zealand every year, a journey of over 11,500 km that takes 8-9 days. These endurance flights are one of the longest known in the bird world, and are a particularly strenuous undertaking that have wide-ranging physiological implications for the birds. Godwits are known to store huge reserves of fat prior to leaving but they arrive with severely depleted body mass. These reductions are pronounced not just in fat reserves but also in lean tissue such as digestive organs. Reduced organ sizes could influence both prey choice and intake rates when birds arrive from migration, but as their guts 'recover', their diet might change and intake rates increase accordingly. In this study I investigated how bill length and behaviour affect resource use (diet choice) and whether there is any evidence for 'recovery' after migration, as part of a Master of Science thesis at Massey University.

Individually marked birds were filmed as they foraged at the Manawatu Estuary, and the footage analysed. By using individually marked birds, I was able to estimate actual sizes of prey items taken based on the birds' known bill lengths, which could also be used to calculate actual probing depths. I could also determine from daily colour-band and leg-flag records when they arrived from migration, and therefore when each video was filmed after their arrival date. Biomass of prey was calculated using size-mass relationships determined from additional benthic sampling.

Of particular interest were how deeply birds probed in relation to bill length, and whether birds of different sizes had different diets and intake rates. Several major prey types were identified, including the mud snails *Potamopyrgus and Amphibola*, polychaete worms, crabs, juvenile flounder, and the buried bivalve *Cyclomactra*, which was taken whole in some instances but often just the long siphon could be extracted. Two clear patterns were that (not unexpectedly) deeply buried prey such as worms and bivalves were taken predominantly by long-billed birds (females) and that the tiny surface-dwelling mud snails *Potamopyrgus* were taken largely by short-billed birds (males). This was more than just long-billed birds being able to probe deeper than shorter-billed birds, however – they also probed full bill-length up to their faces much more often than the shorter-billed birds did. There was also evidence that some birds of both sexes specialised on certain prey types. Diet choice therefore involves an element of physical size but also individual preference.

Perhaps surprisingly, there was no indication that diet or intake rates changed with time after arrival, as might be expected if the digestive system was limiting intake rates and was recovering. Given that the birds would arrive in New Zealand in a state of reduced digestive tract mass, it was expected that they might favour softer prey or consume prey at lower rates initially, until they rebuilt full functionality of their gut. My results suggest that birds arriving from migration ate everything that was available. Other studies of migratory birds looking at mass gains following migration found an initial period of no mass gain before the birds started increasing their body mass. This could be a similar pattern to what is happening with the godwits, in that instead of being limited in their intake rates, the limiting factor could be nutrient assimilation due to gut functionality. In this case, newly arrived godwits would be inefficient at digesting prey, but this would not be apparent in intake rates as examined in this study. To determine the relative effect of this, studies of energetics and body masses would be ideal for a future study to examine.

T. A. ROSS (recipient of David Medway Scholarship 2017)

Hihi chicks photo by Leani Oosthuizen.

Bumper Hihi breeding season on Tiritiri Matangi Island

A record number of Hihi or Stitchbirds fledged on pest-free Tiritiri Matangi Island in the Hauraki Gulf Marine Park during the 2018-19 breeding season. Two hundred and fifty two new birds fledged, more than the previous record of 241 during the 2010-11 breeding season. "Conditions have been ideal for Hihi on Tiritiri Matangi this summer," said Hihi Conservation Charitable Trust Conservation Officer Mhairi McCready. "Around 150 fledgling Hihi are produced in an average breeding season on Tiritiri Matangi so this is a fantastic result for this nationally vulnerable endemic bird."

Shore Plover with chick photo by Glenda Rees/NZ Birds Online

Whio photo by Michael Szabo

Shore Plovers set new record

A quartet of New Zealand Shore Plovers or Tuturuatu were released on pest-free Motutapu Island in the Hauraki Gulf Marine Park in February by the Department of Conservation after the Shore Plover Recovery Programme produced a record 46 chicks. The critically endangered species is one of the rarest shorebird species in the world, with just 250 birds remaining. The chicks were raised at Pūkaha National Wildlife Centre near Masterton and Peacocks Springs near Christchurch. Since the first release on Motutapu Island these small shorebirds have started to be seen in the wider Auckland area, raising hopes for the species' future prospects.

Kākāriki Karaka/Michael Szabo

Orange-fronted Parakeet breeding success

The Department of Conservation's Orange-fronted Parakeet (OFP) Team report that 15 OFP or Kākāriki Karaka chicks were banded in the South Branch of the Hurunui in Arthurs Pass National Park in February with the older ones having transmitters fitted to monitor their survival post-fledging. They also report that a captive-bred female released in nearby Poulter Valley in March 2018 bred with a wild male this breeding season. The two birds produced a clutch of nine chicks and one egg. The oldest four chicks were taken to the captive breeding facility at Peacock Springs near Christchurch in February to be raised in a predator-free captive environment. The remaining five chicks and one egg were left with their parental birds in the hope that they will fledge successfully in the wild and contribute to the gene pool in the Poulter Valley. This clutch is important for the future of the critically endangered Kākāriki Karaka as it reintroduces some wild genes into the captive population. The OFP team estimate the total population is currently 100 to 300 birds, including those in captivity.

Kahurangi National Park addition

The addition of 64,400 hectares of conservation land in the Mokihinui River catchment north of Westport to Kahurangi National Park was announced by Conservation Minister Eugenie Sage in March. A hydro-electric dam proposed on the Mokihinui River in 2007 would have flooded the Mokihinui Gorge and inundated native forests and significant habitats of threatened birds such as Whio/Blue Duck, Kaka, Kea and Roroa/Great Spotted Kiwi. The proposal was withdrawn in 2012 after widespread public opposition.

"Adding this area, roughly half the size of Auckland City, to Kahurangi is the largest addition of land to an existing national park in New Zealand's history," Eugenie Sage said. "National park status will ensure stronger protection of the Mokihinui area's significant cultural, ecological, historic and recreational values."

Chatham Albatross/Rachael Wilson

Eight Chatham Albatross return to The Pyramid

The Chatham Island Taiko Trust reported in March that eight of the Chatham Albatross chicks previously transferred to Gap Sanctuary on Main Chatham Island had returned to The Pyramid: "The find was a real surprise, as we thought the birds were at least a year off starting to return, they are only just turning five-years-old now. Interestingly, 7 of the 8 birds were male, which may suggest that males return at a slightly younger age than females, and perhaps are less likely to shift to new areas. To date we have not recorded any birds back at Gap Sanctuary, however our monitoring is limited to two fixed cameras taking hourly photos of two parts of the colony, so it is possible we are missing the action. We will keep you updated on any developments, and results from any of our research into what this all means as we look into it over the coming weeks." The Trust also reported in March that 27 Chatham Island Taiko chicks have hatched this breeding season.

A 'northern' Spotted Shag/Michael Szabo

A 'southern' Spotted Shag/Mike Ashbee

Genetic isolation and dietary change in Hauraki Gulf Spotted Shags

Molecular analyses of museum specimens are increasingly used for prioritising species lineages for conservation and for assessing the ecological drivers of population declines in threatened birds. In Auckland's Hauraki Gulf Spotted Shag have experienced catastrophic population declines, today numbering less than 1,000 individuals with only one major breeding colony.

We used genetic sequencing and stable isotope analyses of museum specimens to assess the population diversity and food-web history of this single northern New Zealand population over 130 years. Mitochondrial and nuclear DNA indicated that contrary to expectations, given the species' widespread prehistoric distribution, historic and contemporary Spotted Shags from northern New Zealand form a geographically restricted Haplogroup distinct from southern populations.

Moreover, analysis of stable isotopes of nitrogen and carbon in Spotted Shag feathers suggest this population has undergone a reduction in dietary trophic level and a shift in prey carbon source over time, indicating changes in foraging habitat or baseline environmental change. That this result is also consistent across other resident gulf seabirds, including Pied Shag and Little Penguin, suggests widespread long-term human impacts on the Hauraki Gulf marine environment and its food chain.

The consequences of these results in the context of Spotted Shag conservation in the Hauraki Gulf will be discussed.

MATT J. RAYNER, AUCKLAND WAR MEMORIAL MUSEUM (presented at the Birds NZ Conference, Waitangi, 3/618)

3-D Spotted Shag replica models

Six Spotted Shag specimens from the Auckland War Memorial Museum's collection have been scanned and used as the basis for making 3-D printed, hand-painted life-size replica Spotted Shag models that have been installed on Otata Island at the Noises Island group in the Hauraki Gulf. Scientists Matt Rayner from the museum and Tim Lovegrove of Auckland Council's Biodiversity Team have also built shag nests there from seaweed, installed a solar-powered sound system to broadcast Spotted Shag calls, and used white paint to mimic the shag 'guano' that marks their colonies. "All shag colonies and seabird colonies have got lots of white guano," said Matt Rayner. "And any birds that are out there a long way off, they're not going to see these models first, they are going to see that white poo and hopefully that will interest them and draw them in."

Tim Lovegrove counts Spotted Shags in the Hauraki Gulf each year to monitor the population there, which he said has seriously declined in recent decades. "They used to be a very abundant species in the gulf," he said. "There were probably 5,000 to 10,000 birds here in the past and even as recent as the 1980s, you'd go across to Coromandel and you'd count 2,000 birds over there, so the population is very much less now."

A replica Australasian Gannet colony has been successful in attracting gannets to re-inhabit Rotoroa Island, but this is the first time it has been attempted with Spotted Shags.

Spotted Shag - a threatened species in the Hauraki Gulf?

The Spotted Shag/Parekareka reaches its northern limit in the Hauraki Gulf. Nationally threatened, there are c.30,000 pairs with most of these in the South Island. It is not threatened but in the northern North Island it is probably endangered. This is significant because northern Spotted Shags have recently been shown to be genetically distinct.

Thousands formerly bred on inner Hauraki Gulf Islands along the western side of the Coromandel Peninsula. They also used to roost on the Firth of Thames coast north of Kaiaua. Until the 1970s they also bred on the west Waikato coast at Ngatutura Point, and until the 1980s-1990s on Auckand's west coast at Te Henga and Oaia Island. Since January 2014, joint surveys by Auckland Council Biodiversity staff and Birds New Zealand members have covered all the known northern breeding sites to assess the current status of the northern population.

Spotted Shags have now disappeared from the Auckland and Waikato west coast, and they probably no longer breed at the Noises and Coromandel Islands. We estimate that only about 300 pairs remain. We found just three breeding colonies, at Tarahiki Island and at Hooks and Anita Bays at the eastern end of Waiheke Island.

Many still roost along the Thames to Coromandel coastline. Simultaneous counts at the breeding colonies and Thames coast roosts show that these are probably the same birds. Threats may include human disturbance at breeding colonies and roosts, shooting (despite protection), overfishing reducing key prey species, mortality through fisheries bycatch (especially set-nets), and possibly climate change.

TIM LOVEGROVE, SAMANTHA HILL, ANDREW NELSON, CHRIS BINDON & IAN SOUTHEY, BIODIVERSITY GROUP, AUCKLAND COUNCIL (presented at the Birds New Zealand Conference, Waitangi, 3 June 2018)

Replica Spotted Shag, Otata Island/Matt Rayner

Antipodean Albatross photo by Alan Tennyson/ New Zealand Birds Online.

White-faced Storm Petrel chick/Cathy Mitchell.

More seabirds killed

The fishing industry is not doing enough to stop killing endangered seabirds, Conservation Minister Eugenie Sage has said in response to a February report that a commercial longline fishing vessel killed five critically endangered Antipodean Albatrosses in the Bay of Plenty in December and January.

The Minister said the albatross deaths occurred even though the fishing company was operating within the existing fisheries regulations for reducing bycatch and the fishing industry needed to show leadership over the issue. She said that, for example, the industry could use innovations such as hook-shielding devices to cover the point and barb of the hook when longlines were set so that seabirds could not be hooked and drowned.

"Existing measures to reduce the risk to seabirds include weighting lines so they sink faster, setting them at night, and using bird-scaring lines. Using all three together is international best practice but is obviously not enough," she said. The same boat caught a nationally critical Gibson's Albatross, two nationally vulnerable Black Petrels, and a Buller's Albatross.

The albatross deaths were reported by an official observer on board, but only a minority of commercial fishing boats have official observers on board. Fisheries Minister Stuart Nash has so far declined to require all commercial fishing vessels to have cameras mounted on board, which could record and monitor such events.

Scientists map global network of ocean sanctuaries

Scientists have mapped-out a global network of ocean sanctuaries they say is required to save the world's oceans, protect marine species and combat the effects of climate change. *30x30 A Blueprint for Ocean Protection* co-author Professor Alex Rogers of the University of Oxford said, "The report puts forward a credible design for a global network of marine protected areas in the high seas based on knowledge accumulated over years on the distribution of marine species, including those threatened with extinction, habitats known to be hotspots of biodiversity, and unique ecosystems."

The report was published ahead of a UN vote that will set out the first detailed plan of how countries can protect over a third of the world's oceans by 2030. It is the result of a year-long collaboration between scientists at Oxford University, York University and Greenpeace, and includes high seas areas in the South Pacific and Southern Ocean.

"This report shows how protected areas could be rolled out across international waters to create a net of protection that will help save species from extinction and help them survive in our fast-changing world," said co-author Professor Callum Roberts of the University of York. The authors say the high seas play a key role in regulating the Earth's climate. Without this, they warn the Earth's atmosphere would contain 50% more carbon dioxide and become too hot to support human life. Link: https://storage.googleapis.com/planet4-international-stateless/2019/03/5db0f88b-greenpeace-30x30-blueprint-report.pdf

Storm petrel chicks flown from Chatham Islands to Mana Island

Forty-eight White-faced Storm Petrel chicks were flown from Rangatira/Hokorereora Island in the Chatham Islands to Mana Island off the Porirua coast by helicopter in February. Department of Conservation (DOC) principal science advisor Graeme Taylor said conditions were perfect for the relocation and all the chicks arrived looking healthy. Each chick was placed in an artificial burrow above the clifftops of Mana Island. The burrow entrance is gated until the chick is ready to come outside and eventually fly away. Graeme Taylor, who is also Convenor of the Birds New Zealand Scientific Committee said, "We are hoping by bringing chicks here we are going to get birds thinking Mana is a great place to come back to and will settle here."

The birds were the first of 250 that DOC and Friends of Mana hope to introduce to the island over the next two years. The last of the transferred chicks fledged from Mana Island and dispersed out to sea in early March. The first birds are expected to return to Mana Island in two to three years' time. Previous translocations of seabirds to Mana Island include Common Diving Petrels (1997), Fairy Prions (2002, 2003, 2004, 2015, 2016) and Fluttering Shearwaters (2006, 2007, 2008). White-faced Storm Petrels are found throughout New Zealand, however no large colonies remain in the Cook Strait region.

A quantitative analysis linking seabird mortality and marine debris ingestion

The *Procellariiformes* is an order of seabirds that comprises four families: the albatrosses, petrels and shearwaters, and two families of storm petrels. More commonly known as 'tubenoses', they are the most threatened bird group in the world, and the group with the highest frequency of marine debris ingestion.

Marine debris ingestion is a globally recognised threat to marine biodiversity, yet the relationship between how much debris a bird ingests and mortality remains poorly understood.

Using cause of death data from 1,733 seabirds of 51 species, we demonstrate a significant relationship between ingested debris and a debris-ingestion cause of death (dose-response). There is a 20.4% chance of lifetime mortality from ingesting a single debris item, rising to 100% after consuming 93 items. Obstruction of the gastro-intestinal tract is the leading cause of death.

Overall, balloons are the highest-risk debris item; 32 times more likely to result in death than ingesting hard plastic. These findings have significant implications for quantifying seabird mortality due to debris ingestion, and provide identifiable policy targets aimed to reduce mortality for threatened species worldwide.

A quantitative analysis linking seabird mortality and marine debris ingestion. Lauren Roman, Britta Denise Hardesty, Mark A. Hindell & Chris Wilcox of CSIRO Oceans & Atmosphere, Institute for Marine & Antarctic Studies, Univ of Tasmania, and Antarctic Climate & Ecosystems CRC, Univ of Tasmania. *Nature*, Scientific Reports vol 9, 3202 (March 2019).

New Zealand Fairy Tern juvenile, Waipu Estuary/Darren Markin.

Banded Dotterel with white flag/George Hobson.

Fairy Terns and mangrove removal at Mangawhai

Ornithologists studying New Zealand Fairy Terns at Mangawhai in Northland say they suspect the decline of the birds there may be linked to the removal of native mangrove trees from the harbour. The critically endangered birds had a disastrous breeding season in 2018-19 after stormy weather in Spring, with just two chicks fledging in the whole country, one at Pakiri and one at Waipu Estuary.

They have observed that breeding has been poor since the removal of local mangroves by the Mangawhai Harbour Restoration Society (MHRS) in 2015. MHRS was granted a consent in 2014 allowing them to remove the native trees by hand, but was able to use heavy machinery after Northland Regional Council granted a variation of the consent. Trees were removed with a 20-tonne digger followed by extensive scarification with heavy machinery to break up the roots, churning up large areas of the intertidal flats.

They think the mangrove trees may have played an unsuspected but important role in the survival of New Zealand's rarest endemic bird and that the impacts of mangrove removal appear to have been harbour-wide, as even the Fairy Terns feeding furthest away from the removal areas have been affected.

New Zealand Fairy Tern Trust chair Heather Rogan says that as soon as the mangroves were removed, local Fairy Tern egg production plummeted. She told RNZ News: "The year before the mangroves were removed there were 18 eggs laid on the Mangawhai Sandspit, and the following year, there were five. That's quite a big drop."

Birds New Zealand South Auckland Regional Representative Ian Southey, who has been observing the Fairy Terns and advising the Trust, says egg production had never really recovered after the mangrove removal. He told RNZ News: "They're not laying eggs like they used to. The average clutch size is smaller; the percentage of fertile eggs has declined and the ability to re-lay if the clutch is lost has declined dramatically, perhaps almost disappeared. This means fewer chicks are hatched."

The problem is specific to Mangawhai and breeding success in other locations is largely unchanged, he says. Mangawhai holds most of the potentially breeding pairs so impacts at Mangawhai are impacts on the whole population. He also says the number of eggs laid by female Fairy Terns, and whether or not they would try laying again if their nest was destroyed, may be based on the abundance of food early in the breeding season.

The birds' main prey when breeding at Mangawhai is the Estuarine Goby, an abundant species most common near the areas of mangroves that were removed and handy to the terns' nesting sites. He suspects what has happened at Mangawhai is that the quantity and/or quantity of these fish has declined and this may be affecting the ability of the terns to lay fertile eggs.

Another scientist, Karen Baird, studied Fairy Tern feeding habits at Mangawhai during the chick-rearing period of the 2010/2011 breeding season. She says that this research showed that the Estuarine Goby was most abundant around the mangrove edges. Those had been favourite and possibly critical foraging spots for parent birds feeding their fledglings a fish every two minutes. "To our way of thinking this is a potential contributing factor [to the breeding failures]. We don't have all the answers, but we do believe that because the birds are so critically endangered that you need to take a conservative approach to managing their habitat. Mucking around with it, removing mangroves on a whim just doesn't seem to make any sense," she told RNZ News.

DOC scientist Tony Beauchamp believes the five storms that hit Northland's east coast last Spring were a major factor in the disastrous breeding season for the Fairy Terns, but that the impact of the storms on these birds was amplified by the removal of the mangroves which had previously stabilised silt, he says. He told RNZ News: "In the past the silt was captured by the mangroves, and by removing them you are opening it up to be re-suspended in the harbour." And that made it difficult for the birds to see their small fish prey.

Last November, he watched a pair of Fairy Terns trying to feed after the storms. "The mate at low tide was able to provide her with food; she was actually on the sand; but before that both of them had been trying to feed in the area and I didn't see any successful feeding at all."

Keep a lookout for Banded Dotterels

Mainland Island Restoration Operation (MIRO) have been intensively monitoring the Pohowera or Banded Dotterel since the 2015 breeding season as part of a project initiated by Parker Jones after he noticed the nationally vulnerable Pohowera right on his doorstep, in Eastbourne by Wellington Harbour.
MIRO acquired a high-impact permit to start monitoring the Banded Dotterels in Eastbourne and the nearby Parangarahu Lakes (Pencarrow) and volunteers from the Wellington Birds New Zealand Branch and the local community are now involved in monitoring the species there.

One of the main aims is to discover where Wellington's Banded Dotterels spend winter. The birds have been banded with white alpha-numeric flags (white flag with a 3-letter combination) with help from Mike Bell (WMIL) and local banders. Most of the population is now banded, and as the birds are now migrating away from breeding sites, we're really keen to receive reports of where they're spending winter.

Whenever you're out birding and there are Banded Dotterels nearby, please look closely at their legs and check for a white flag! If you see any flagged Banded Dotterels, please send the sighting information to the DOC Banding Office, or directly to me: george.h@outlook.co.nz

GEORGE HOBSON, YOUNG BIRDERS

Australasian Crested Grebe or Pūteketeke courtship display.

New Zealand Bird Atlas launched

Article by Patrick Crowe and Mike Bell. Photographs by Mike Ashbee.

Birds New Zealand launched the *New Zealand Bird Atlas* on June 1st at the 80th annual conference in Wellington. The Atlas project has been highly anticipated and the launch was met with great enthusiasm, becoming a talking point of the conference. We are excited to see so many members getting involved and the bird count checklists are already flowing in!

A training session at Wainuiomata Valley was held as part of the conference field trips and this was attended by many members. The training session focussed mainly on the use of the *eBird* smartphone app to record observations while in the field. This will be the main method for recording Atlas checklists and members who attended the training session walked away with a better understanding of using the *eBird* app.

The primary aim of the Atlas is to map the national and regional patterns of bird distribution and abundance across the entire country. This will occur over a five-year period, from 2019 to 2024, and makes it one of the most ambitious citizen science projects ever to be undertaken in New Zealand.

There are a total of 3,232 grid squares covering land throughout the whole of New Zealand and its outlying islands (including Stewart Island, Chatham Islands, Kermadec Islands and Subantarctic Islands). Each grid square will be surveyed at least once during each of the four seasons. Within each grid square, we will attempt to visit all major, accessible habitat types present, and collect at least one complete bird species checklist for each habitat. A complete checklist is one in which all bird species that were encountered and identified in the field are recorded; along with date, time, location and search effort data. Within these constraints, observers will be free to choose their survey method, such as stationary vs travelling counts, and level of survey effort.

There was discussion about extending the Atlas grid to the limits of the coastal marine area (12 nautical miles offshore) or the Exclusive Economic Zone (200 nautical miles offshore) but ultimately this was decided against. The primary reason for the decision is that we were not confident on our ability to achieve adequate survey coverage of either of these areas. Many grid squares contain sea and coastal habitats and we encourage people to submit complete checklists for these different habitat types.

The biggest difference between the current Bird Atlas and its predecessors is that we have transitioned from paper to electronic records with observations now being recorded and stored in the online database, *eBird*. The previous Atlas (1999-2004) had over 30,000 field forms which all had to be manually processed and entered into an electronic database! By having observers enter data directly into *eBird*, not only will an immense amount of time be saved, but errors will be reduced by eliminating double handling of data. Atlas participants will also benefit by way of having data uploaded in real-time allowing them to get continuous updates of survey coverage and target areas that require more survey effort. Atlas participants will be able to explore their own data as well as the data submitted by others throughout the country.

▲ Orange-fronted Parakeet or Kākāriki Karaka.

The *eBird* database has a unique system of built-in data filters and prompts to effectively minimise data entry errors and automate some of the data validation process. Rare or unusual sightings as well as unusually high counts are automatically "flagged" and will then be reviewed by a national network of expert, volunteer data reviewers. These processes are required in order to compile a national dataset of the highest quality. If your observation does get flagged then please double-check it and if you are sure it is correct then provide as much detail regarding the observation as possible.

This is a Birds New Zealand project and the success of the project will largely rely on members. We encourage members to regularly check *eBird* for updates on grid-square coverage which will then assist you in deciding which grid-squares or specific habitat types within grid-squares to target while out birding.

A key point to remember also is that no matter where you are, you can be contributing important data to the atlas project. It doesn't matter whether you are in the mountains on a tramping trip, out on the farm, or even in the city on your lunchbreak; as long as you are in New Zealand then you can be involved in the atlas project! This will be your chance to make a significant contribution to understanding nationwide changes in bird distribution that have occurred over the past 45 years. Ultimately this project is going to help guide future conservation efforts of all of New Zealand's bird species.

We also want to remind all members that anyone can take part in the *New Zealand Bird Atlas* and where possible we should be encouraging non-members to contribute data. Take the opportunity to talk about the project with members of other societies, family and whānau, friends, schools and universities, community groups, trampers, hunters, tourists and anyone else you can think of! The more we spread the word to get people involved and contributing to the, the more likely it is to succeed.

"To get started, an Atlas Handbook has been developed for the project that can be printed and used as a guide when out birding." This is available on the *New Zealand Bird Atlas* website birdatlas.co.nz and we encourage everyone (even those already contributing) to read this guide to ensure data is being collected and submitted in the correct manner.

The website is a source for more information about the Atlas project including aims, field methods and planned outputs. For those who are unfamiliar with using *eBird*, there are links to informative and educational videos put together for helping to get you started. These videos will help you step-by-step with all aspects of from creating an account to submitting checklist data to exploring the myriad of bird data openly available. The website also contains additional resources such as template letters to landowners for accessing land to conduct surveys.

A 'Frequently Asked Questions' section answers many of the questions that you may already have. Use this as a first reference point if you or someone you know has a question relating to the *New Zealand Bird Atlas*. If, after checking this page, your question remains unanswered then please do not hesitate to get in contact by using the "contact" page.

If you are on Facebook, please like and follow the Atlas Facebook page facebook.com/NZBirdAtlas where updates on how the Atlas is progressing will be posted regularly. We encourage Facebook users to share their own Atlas experience by posting photos, videos and stories on this page so that other Atlas participants can be enlightened! You can also post questions to this page or send a private message to the National Atlas Coordination Team.

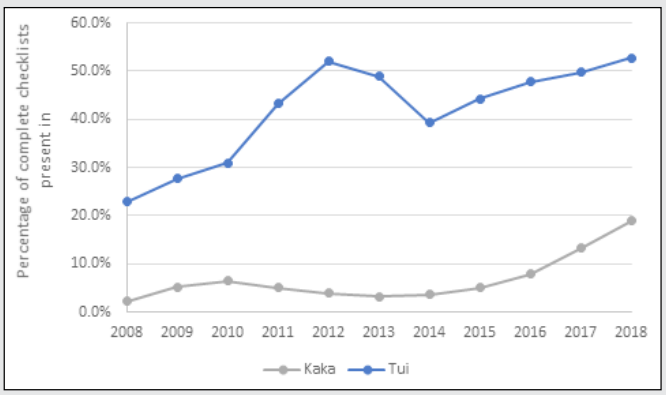
PATRICK CROWE AND MIKE BELL WORK FOR WILDLIFE MANAGEMENT INTERNATIONAL LTD.

Red-necked Stint in breeding plumage.

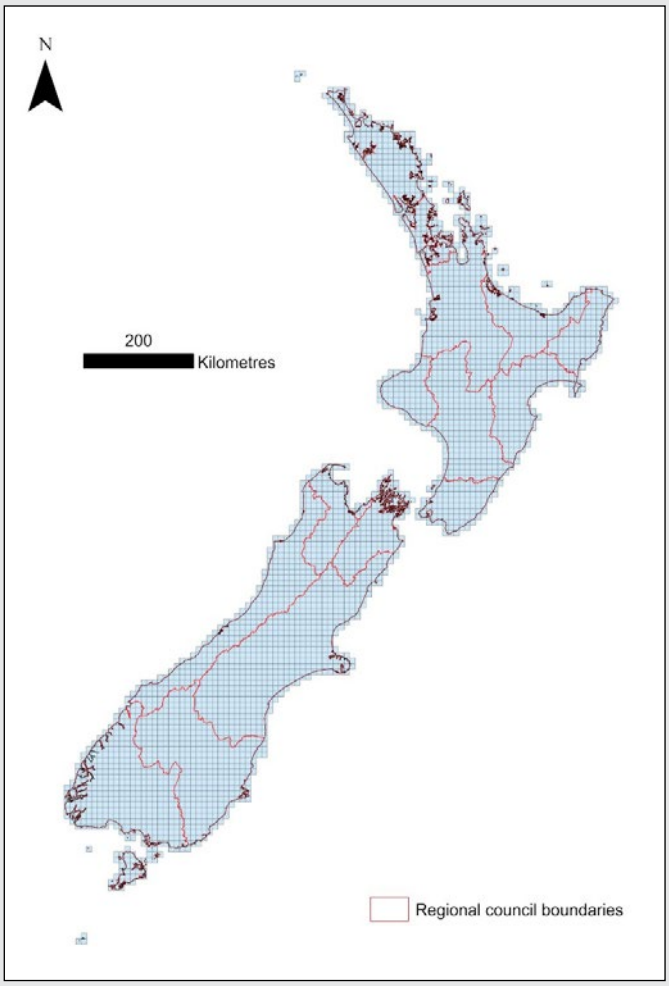
Right: New Zealand Bird Atlas map showing the regions and grid squares. The number of grid squares per region is: Canterbury 488; Southland 386; Otago 343; Waikato 288; West Coast 271; Manawatu-Whanganui 232; Northland 195; Hawke's Bay 163; Bay of Plenty (149); Marlborough 135; Tasman 109; Wellington 108; Auckland 94; Taranaki 90; Areas outside Territorial Authority 43; Chatham Islands 32; Nelson 7.

The total number of grid squares is 3,232.

NEW ZEALAND BIRD ATLAS



Graph showing an increase in Tui and Kaka reported in the Wellington region as represented by a percentage of total *eBird* checklists submitted from the region (2008-2018).



'Apapane displaying/J.H. Fischer

Akikiki with a transmitter/J.H. Fischer

Kaua'i 'Elepaio juvenile/J.H. Fischer

Kaua'i 'Amakihi/J.H. Fischer

Saving Hawai'ian songbirds

Just as with New Zealand native birds, Hawai'ian native birds are threatened by invasive species, especially the endemic Hawai'ian Honeycreepers which have been hit heavily by invasive species. However, unlike New Zealand birds, Hawai'ian birds are more threatened by invasive avian malaria and its vector, an equally invasive mosquito species, than by invasive predators such as rats. Some native Honeycreeper species are so susceptible to avian malaria that a single infected mosquito bite has a mortality rate of more than 90%. The range of the mosquitos, however, is limited by temperature so it is limited to areas with temperatures higher than 15˚ C. Of the main Hawai'ian Islands, Kaua'i is the lowest (<1,598 metres above sea level). The altitudes above 1,000 metres on Kaua'i are still quite cool and thus largely free of mosquitos. Consequently, the native forests at these altitudes still support the endemic forest bird communities, including many Honeycreepers.

Kaua'i has eight species of native songbirds, six of which are Honeycreepers: 'Akikiki (Critically Endangered), 'Akeke'e (Critically Endangered), Kaua'i 'Amakihi (Vulnerable), 'Anianiau (Vulnerable), 'I'iwi (Vulnerable), and 'Apapane (Least Concern). Puaiohi (Critically Endangered) and Kaua'i 'Elepaio (Vulnerable) are also part of the endemic forest bird community on Kaua'i. Almost all these species are threatened with extinction, as climate change is causing global temperature increases, opening areas to mosquitos that were previously too cool for them. A 2016 study by E.H. Paxton and others (*Collapsing avian community on a Hawaiian Island*. Science Advances 2, e1600029), calculated the time until extinction with the onset of climate change for each of these species. Virtually all native songbirds on Kaua'i will be extinct by 2100. Some will go extinct much sooner though: 'Akeke'e (2028), 'Akikiki (2046), Kaua'i 'Amakihi (2049).

To better understand the threats and design much-needed counter measures, the Kaua'i Forest Bird Recovery Project (KFBRP) works tirelessly in the last parts of Kaua'i that remain mosquito-free. For a week, I had the good fortune to join them on the high plateaux of Kaua'i and help with their work. Fieldwork included intensive banding efforts to better understand population dynamics, taking blood samples to better understand avian malaria resistance, and studying mosquito prevalence throughout the high-altitude plateaux. While the situation looks dire, I now feel much more optimistic about the future of Kaua'i's avifauna. Captive breeding projects on some of the higher islands have been set up to buy time and a myriad of potential management ideas are being tested. If anyone is going to save these birds from extinction, the KFBRP will.

JOHANNES H. FISCHER

New protection for birds around Aoraki/Mt Cook

A large predator-free area in some of the South Island's most majestic landscapes is the long-term vision of a $4.5 million predator control project announced by Minister of Conservation Eugenie Sage in November. "Encompassing 310,000 hectares between the snowy mountain lands of Aoraki/Mt Cook National Park, glacier-fed lakes and the iconic drylands of the Mackenzie Basin, Te Manahuna Aoraki 'mainland island' is inspirational," she said. "It will help to preserve and protect the habitats of 23 threatened species including Wrybill/Ngutuparore, Kea, and the world's rarest wading bird, Kaki/Black Stilt."

North Island Adzebill artwork by Paul Martinson © Te Papa CC-BY-NC-ND 4.0

This South Island Adzebill skeleton greets visitors to Canterbury Museum/Nic Rawlence.

The adzebills are most closely related to Madagascan Wood Rails (top) and Flufftails (bottom). Artwork by J. G. Keulemans.

From the Mists of Time: the Enduring Mystery of the Adzebills

Article by Dr Nic Rawlence, University of Otago

As a kid, I remember visiting Canterbury Museum with my Dad. I was fascinated and terrified in equal measure by the giant Moa skeleton in the entrance, just as my four-year-old is today. But what really interested me was the much smaller, but not less diminutive, skeleton of an extinct adzebill.

The New Zealand adzebills were built like tanks. They sported massive adze-like beaks and skulls. These were in turn supported on a long neck made up of heavily reinforced vertebrae. With very little in the way of wings, these giants walked around on equally robust legs and feet.

Weighing in at 16-19 kg, (some estimates place their weight as high as 25 kg), and up to one-metre-tall, adzebills would have been formidable flightless birds indeed. When Polynesians arrived that fateful day in Aotearoa around 750 years ago, these stocky birds inhabited the drier eastern areas of the North Island and South Island, before quickly going the way of the Moa as a result of over-hunting.

Enigmatic as they may be, adzebills are also birds shrouded in mystery, much like the anonymous contemporary artist Banksy. Their origins and palaeoecology are seemingly lost in the mists of time. Where did they come from, and when? What did they eat? What did they use their massive beaks and powerful legs for? Grubbing in the dirt or holding down their prey and stabbing it have all been suggested. These big questions have been tempting scientists ever since Sir Richard Owen, the famous anatomist, first described adzebills in 1844, ironically not from their infamous skull, but from a leg bone

Seeking the answers to these questions epitomises the phrase "the nearest thing to studying life on another planet", coined by Jared Diamond about our unique biodiversity. And yet, as Mike Dickison, New Zealand's Wikipedian-at-large, says "almost nobody in New Zealand has heard of them". However, recent discoveries are beginning to lift the veil of mist that has shrouded these extinct birds for over 170 years.

So, what do we know? Fossils from the Miocene wonderland at St Bathans in Otago suggest adzebills have been an integral part of our unique biodiversity for at least 16-19 million years. The St Bathans Adezebill suggests a flightless bird only slightly smaller than its more recent descendants.

Palaeontologists have placed adzebills, based on the general shape of their bones, within the *Gruiforms*, the order of birds that includes rails and their allies – think of the more familiar Weka, Takahē and Pūkeko. But that's where the trail runs cold. The bones of adzebills are so modified from their long evolutionary history in Aotearoa that their detailed whakapapa has been all but obscured with the passage of time. Adzebills have been compared to other large *Gruiforms* like the New Caledonian Kagu and the South American Sunbittern, to no avail. Adzebills are good at keeping secrets – until now.

An international team, led by Alex Boast from Manaaki Whenua Landcare Research, and including our own Canterbury Museum and Te Papa Tongarewa, have used ancient DNA to pull back the mists of time to reveal the true identity of the adzebills. And it's no less fascinating. Adzebills are indeed *Gruiforms*, but in a surprise twist, these enigmatic birds are most closely related to the *Sarothruridae*. This family of birds, which even fewer people (including me) have probably heard of, comprises the Madagascan Wood Rails (*Mentocrex* spp.) and the diminutive African-Madagascan Flufftails (*Sarothrura* spp.), the latter of which weigh less than 50 grams.

Molecular dating suggests that the tūpuna of adzebills arrived in Aotearoa via long-distance dispersal about 40 million years ago, with dates ranging from around 25-54 million years ago. Africa and Madagascar had separated from the southern supercontinent Gondwana long before this, approximately 100 million years ago, suggesting the ancestors of adzebills were true globe-trotters. It's likely they arrived here after a long-haul flight, or equally possible, via an OE through Antarctica, which at that time wasn't the frozen continent it is now. Liking what Aotearoa had on offer, they decided to stay, but went extinct everywhere else.

Think this story sounds familiar? Well, you would be right. Ancient DNA and morphology, (the shape of bones), has shown that our national bird, the kiwi, is most closely related to the extinct giant flightless Madagascan Elephant Birds. The kiwi's ancestors were also globe-trotters and flew here around 50 million-years-ago.

So, why did the tūpuna of adzebills, which probably weighed a meagre 280 grams, undergo a 50-fold increase in size from their arrival 40 million years ago, to the giant St Bathans Adezebill we would have no trouble recognising, roaming the shores of the palaeo Lake Manuherikia 16-19 million years ago? It's likely that they exploited a job vacancy in the prehistoric New Zealand ecosystem ideally suited to them and got there first.

If, however, these tūpuna arrived after the 'Oligocene drowning' around 25 million years ago, as the range of arrival times suggest, then their size increase is very impressive indeed, only topped by the rapid gigantism in the extinct Haast's Eagle and Eyles' Harrier. These top avian predators are actually the descendants of Australians that moved across the ditch to

Australasian Bittern photo by Mike Ashbee.

Bitterns – 'much fewer than 1,000 in New Zealand'

New research shows the number of Australasian Bittern or Matuku in New Zealand may be fewer than previously thought. A previous estimate put the number at fewer than one thousand, but new GPS tagging data reveals the number will be much lower. Researchers have been tracking the birds since September 2018. Department of Conservation (DOC) bittern researcher Emma Williams said the data shows the birds travel far to find different wetland habitats, so birds could have been double counted in past surveys. "A Canterbury bird could be counted in Marlborough and our Waikato birds are actually also the ones that are in the Bay of Plenty and Auckland. This is particularly concerning because if you've only got a thousand birds and you're potentially double counting them then that's quite serious," she said.

The species, which is listed as 'nationally critical' is very secretive, making it hard to find and band the birds for identification. GPS tracking has also revealed that male Matuku flew 330-km from Lake Ellesmere in Canterbury to wetlands near Blenheim during the breeding season last spring. They also flew 117-km from Whangamarino wetland in north Waikato to south Kaipara, and from Whangamarino to Kaituna in Bay of Plenty. Previously it was thought that they ranged only small distances from their home wetlands. The DOC-led study also showed that they rely on a network of wetlands to feed and breed in. The Birds New Zealand Research Fund has supported Matuku research in Hawkes Bay since 2015.

A male Kākāpō and the aerial drone DOC used to fly the bird's sperm across Whenua Hou Island for artificial insemination of a female Kākāpō. Photo by Andrew Digby/DOC.

Kākāpō 'baby boom' sets new record

More Kākāpō chicks have hatched this breeding season than during any other in the 28-year history of the Department of Conservation Kākāpō Recovery Programme. A total of 74 chicks have hatched so far from a total of 249 eggs laid during the 2018-19 season, although only 117 of these eggs were fertile. Another seven chicks hatched but subsequently died. The previous record was 47 chicks hatched during the 2015-16 season. The first of this season's chicks hatched on 30th January and the last in early April, but these chicks cannot be counted as part of the adult Kākāpō population until they are six-months-old. There are currently 147 adult Kākāpō.

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greener pastures around 2.3–2.5 million years ago. Not only that, but just like the adzebills, they are most closely related to some seriously small forebears. In this case, the comparatively tiny Little Eagle and Booted Eagle, and the small to medium-sized Spotted Harrier.

The St Bathans Adzebill, and the molecular dating, suggests these tank-like birds evolved in the South Island and only moved into the North Island relatively recently, around 0.2–2.3 million-years-ago. This timing coincides with the formation of a land bridge between both islands around 1.5–2 million years ago, closing the Manawatu Strait, long before the formation of the formidable Cook Strait around 450,000 years ago. The inhabitants of the North Island wouldn't know what hit them with the arrival of adzebills, possibly quite literally.

Which brings us to another enduring mystery, one of many concerning adzebills. What powered these tanks? Jamie Wood from Landcare Research may just have the answer. Stable dietary isotopes (think you-are-what-you-eat) from adzebill bones can be used to reconstruct the habitat (^{13}C) and trophic level (^{15}N) of these mysterious birds. In an ingenious study that eliminated geographical and temporal variation in isotopic signatures that can muddy the waters, Jamie showed that adzebills had a high trophic position in Aotearoa's prehistoric ecosystem, relative to their contemporaries. Whether this means adzebills were predators or scavengers is not known. All we know is that adzebills enjoyed a good steak, served very rare and possibly smelling a bit funky.

Some mysteries may never be solved, but that's what makes science fascinating. Adzebills are good at keeping secrets. For me personally, I think it should stay that way, as a metaphor for how weird and wonderful life can be on islands and Aotearoa in particular. But also, as poster birds to attract our tamariki to seek out the secrets hidden in New Zealand's past. So, the next time you are at Canterbury Museum, take another look at the adzebill skeleton in the entrance, and think, imagine even, those penguins from the *Madagascar* movies had nothing on these Kiwi 'badasses'.

White-naped Petrel/L Feasey

FAR NORTH

Scott Brooks has posted elsewhere about our Three Kings pelagic birding trip on 17-20 March. It was a fun trip, and there were a few surprises. Heading out of Whangaroa past Stevenson's Island we saw two Cape Barren Geese, but the bird of the day was a White-naped Petrel further out at sea. A couple of Common Diving Petrel landed on the deck during the night which were released next morning. An obliging Long-tailed Skua posed for photos before we reached the Three Kings Islands before noon where we found a colony of Grey Noddy which hasn't previously appeared in any reports that I've seen. The sought-after nesting Buller's Mollymawks were spotted on Rosemary Island, and reports of a Black Noddy earlier in the Summer were confirmed with a new sighting. The next day was a birding bonanza for us. We saw Wedge-tailed Shearwater, Gould's Petrel, Long-tailed Skua, Wilson's Storm Petrel and Kermadec Petrel as well as the more common seabird species of this area. Then, during the return trip to North Cape Harry Boorman spotted a White Tern.

As is the custom, our beach patrols counted live birds as well as beach-cast birds. The March patrol turned up an amazing 857 White-fronted Terns, as well as 455 Southern Black-backed Gulls, which apparently had a very successful breeding season. The April survey saw 765 Red-billed Gulls, another surprising total.

Far North member Carol Ann Davies (1955-2019) passed away on 12th March 2019, aged 64 after a fight with MND. Carol is well remembered as an enthusiastic birder and vigorous conservationist in the Bay of Islands and the wider Far North region. Along with her husband, Detlef, she campaigned for bird-safe beaches, bird-friendly dog bylaws, and the enrichment of bird life in the area. A tenacious campaigner, she fought relentlessly for the betterment of birds in the Far North, and her passing will leave a void. We wish Detlef and the children and grandchildren the best for the future and will remember Carol's contributions with gratitude. – *LES FEASEY*

NORTHLAND

Hilton Ward reports: "A shorebird count at Ngunguru Sandspit and lower estuary was undertaken by a group of Society members and the Ngunguru Sandspit Protection Society on Saturday 23rd February. The total was much higher than recent years mostly due to there being 107 White-fronted Terns counted. It is normal to see larger numbers of terns in February on Pimanu, but 107 exceeds all previous. Nice to see 24 Bar-tailed Godwits back and colouring-up prior to their long flight to the Arctic and breeding, and the 2 Whimbrel that have stayed around for our Summer. Counted in two separate flocks were 62 Greenfinches with another 12 on the Ngunguru foreshore. We have not seen this before. The average being 9."

The count included: 24 Bar-tailed Godwit, 3 Caspian Tern, 2 Spur-winged Plover, 19 Banded Dotterel, 4 Little Black Shag, 18 Sthn Black-backed Gulls, 38 New Zealand Dotterel, 7 Mallard/Hybrids, 75 Greenfinch, 37 Variable Oystercatcher, 39 Red-billed Gulls, 2 Little Shag, 2 Whimbrel, 20 Starling, 3 Myna, 1 Blackbird, 2 Song Thrush, 2 Skylark, 5 Pied Shag, 2 NZ Pipit, 6 Welcome Swallow, 107 White-fronted Tern, 1 House Sparrow.

On 20th–21st February, a wetland classroom at the Ward's wetland was held for Year 3 and 4 from Ngunguru Primary School, who learned about the importance of wetland protection for the flora and fauna they were able to see at the various stations they rotated around. The children caught the excitement of the birders present when a bittern appeared on the second day, and were amazed when able to see it up close through the scope. The biannual Pouto Lakes bird survey was undertaken on March 3rd. While the overall collated numbers have not yet been published by the coordinator, the counters particularly noted the greatly increased numbers of NZ Dabchick and NZ Scaup seen, compared to the last survey 2 years ago. – *ANNE McCRACKEN*

AUCKLAND

The long hot Summer resulted in few rarities being reported in the Auckland region, although it did result in some very successful breeding for some species. The Hihi breeding season on Tiritiri Matangi Island was the most successful ever with a total of 252 new birds being added to the population. In contrast, the Shore Plover population on Motutapu Island of 17 adults only produced three fledglings; however, this population will soon be boosted by the translocation of more captive bred birds.

Our March Beach Patrol of Muriwai Beach found a total of 10 birds from eight different species. These included: a Mottled Petrel, a Fluttering Shearwater, a Short-tailed Shearwater, a Bullers's Shearwater and a Wandering Albatross. The albatross was very decayed and could not be identified as either a Gibson's or Antipodean subspecies.

Post-breeding Flock Counts of northern New Zealand Dotterels took place in late March with preliminary results indicating that numbers have increased this summer. The Flock Counts provided the opportunity to count other species with the count at Big Sand Island/Manukapua in the Kaipara Harbour on 24th March finding: 3 Sharp-tailed Sandpipers, 2 Red-necked Stints, 2 Sanderlings, 7 Whimbrel, 30 Pacific Golden Plovers, 12 Little Terns and 12 New Zealand Fairy Terns. This count was well-attended with more than 20 people taking part and provided some encouraging news with Fernbirds being seen on the island. Other interesting wader sightings in the Auckland region have included up to 3 Grey-tailed Tattlers being seen at Ambury Park in Mangere during the month of March.

Our first public Guided Bird Walk at Ambury Park took place on the 24th February with over 25 attendees; birds seen included two Curlew Sandpiper. Unusually, on 23rd February a deceased juvenile Long-tailed Cuckoo was found by Anna Cassels-Brown at the foot of the office tower at Greys Avenue within the Auckland CBD. The building is fully clad in mirror glass and it seems that the young bird flew straight into it. The juvenile bird was likely on the start of its very first migration north & unfortunately ventured right into the centre of the city. The outcome both highlights the danger of reflective glass & the fact that unusual birds can show up in very unlikely places. – *IAN McLEAN*

SOUTH AUCKLAND

Keeping with the Shining Cuckoo theme from last issue, there was very little calling reported during the rest of February with mostly short calls heard. David Lawrie had his attention drawn by a thump on the window on the night of March 5th and found two Shining Cuckoos on his doorstep, one was dead but the other survived and both appeared to be juveniles so presumably they migrate after the adults have left.

There's always a little sadness mixed in with the delight of watching the godwits and knots colour-up and fatten as the season starts to turn. This year though, Jo-jo Doyle and Amanda Hunt have been diligently watching the comings and goings of Pacific Golden Plovers at Miranda for months. They were trying to make a success of a project initiated by Jim Eagles of the Pukorokoro-Miranda Naturalist's Trust to see where they go. The Pacific Golden Plover expert, Wally Johnstone, from Montana State University came over from the USA with a small team to help catch the birds and fit transmitters. Not surprisingly it was a frustrating week and then some, but we caught three birds. As at April 9th, one of them seems to have departed but the other two are with the last nine birds yet to go. So far, their transmitters are working and their progress will be posted on the Pukorokoro-Miranda website. Fingers crossed.

Miranda is always a good place to go, with new appearances over the last two months including a Grey-tailed Tattler, three Eastern Curlews, three Black-tailed Godwits, two Hudsonian Godwits and the long-staying Broad-billed Sandpiper still present. A Great Knot reported at Whitford by Bruce Keeley on March 12th may have been the bird earlier seen on the Manukau. A Black-fronted Dotterel seen at Mangere on April 9th by Stuart Laureson suggests that some of the birds once seen regularly there are still hanging on. Tony Woodroofe reports some unseasonal signs of Spring with Blackbird song three weeks ago and an Australasian Harrier calling and displaying. A second-hand report of a New Zealand Falcon at Paparoha on the Coromandel Peninsula was also of interest. – *IAN SOUTHEY*

BAY OF PLENTY/VOLCANIC PLATEAU

Field trips are a rare occurrence in our world, so we did one instead of a hot stuffy evening meeting in February. A 'Wetland ID' day was in order, and members got to see through telescopes the differences between various

waterfowl species. Over 20 bird species were seen and a photographic quiz sheet proved most valuable when matching a name to a photograph.

We changed our usual meeting venue and met at Tauranga City Library for an evening with Mike Lee in April. He recently published an amazing book, *Navigators and Naturalists: French Exploration of New Zealand and the South Pacific 1769-1824*. Mike spoke to us about the book and how he came to write it. He has spent years on Hauraki Gulf Islands working with wildlife, is formerly Chair of Auckland Regional Council, and is a current Auckland City Councillor. He was happy to answer our questions related to birds, which feature heavily in the book.

The star bird in our region this Summer has been the White-winged Black Tern that Tim Barnard found at Pukehina Spit near Maketu. It was still there with 30 White-fronted Terns and 2 Little Terns on 24/3. The star range extension was the Weka infiltrating Whakatane's southern boundary from Ohope. – *PAUL CUMING*

TARANAKI

February's field trip on a hot summer's day was to one of our favourite places, Waitaanga South where we wander back country roads birding and botanising; as always North Island Robin were plentiful, also Grey Warbler, NZ Tomtit, NZ Pigeon and Whitehead. One alert member had a brief glimpse of a deer and fawn crossing the road. The highlight was a pair of NZ Dabchick with two juveniles among a hundred plus moulting Paradise Shelduck on a small lake.

There have been some large flocks of Canada Geese seen and eight Pied Shag at Awakino in late February. A few NZ Dotterel are on coastal beaches but no reported successful breeding. At the March meeting Barry Hartley announced he was retiring as Regional Representative; a call for a replacement was met with silence.

Then before he knew what had happened the Regional Reporter was nominated and elected; Barry took over when the late, great David Medway retired from the position, so I am following on from two extremely knowledgeable and well-respected Society members. Attending the AGM in June will give me an opportunity to meet the other RRs.

A fine sunny day had members attempting to count waterfowl at Lake Mangamahoe; there is a big population of Canada Geese, plus NZ Scaup, a few Coot and three NZ Dabchick. Most of us saw the Australasian Little Grebe which was a first record for Taranaki. Later on, Australian Shoveler, Grey Teal and eleven Black Shag were added to the list. Barry Hartley, surveying the northern estuaries, counted twenty Pied Shag at Awakino and there have been Royal Spoonbill at Mokau all year, as well as thirty-four SIPO were on the mudflats.

A fine Autumn day, with fresh snow on Mt Taranaki saw five of us take a four-hour walk around Lake Rotokare. There has been a huge fruiting season and the birds were spoilt for choice; some Kahikatea and Coprosma were more orange with fruit than green. The calling of Tui and Bellbird was deafening so an estimate of numbers was impossible. Tieke, Hihi, Whitehead, NZ Fantail, Silvereye, Grey Warbler and Fernbird were active and vocal, and the North Island Robin as ever was most confiding. – *PETER FRYER*

HAWKE'S BAY

A Common Greenshank was photographed near Wairoa River mouth on 2/4 and the two White-winged Black Terns found at Southern Marsh by Adam Clarke on 20/12 were seen regularly until 24/3. – *IAN SMITH*

Koitiata Lagoon field trip/P Frost

WHANGANUI

In late January and early February, Paul Gibson and Peter Frost visited the Waitahinga Reserve to look for Whitehead and Long-tailed Cuckoo. The reserve is known locally to support a good population of Whitehead and there have been reports from previous years of numerous Long-tailed Cuckoo. Around 5 groups of Whitehead were seen and heard on both occasions, along with 4 Long-tailed Cuckoo in late January and no less than 7, and possibly as many as 10, recorded a week later (5 seen in flight at once, with at least 2 others calling simultaneously nearby). Is this a stop-over point for cuckoos on migration, or is this forest with its good population of Whiteheads is a breeding hotspot for the cuckoo? The forest also supports sizeable numbers of North Island Robin, Tūi and Bellbird.

Paul Gibson continued monitoring the presence of our flagged Bar-tailed Godwit, AJD. This bird, a male, has spent every summer since at least 2008/09 on the Whanganui Estuary. He normally leaves on 25th March each year, usually from Whanganui, but occasionally he goes late to Foxton Beach and departs from there, as he did this year, when he left on 28th March, having apparently been delayed by unfavourable winds. He was first marked as an adult in October 2008 at Foxton Beach, to where he returns each year before moving over to the Whanganui Estuary for the summer. While checking the estuary 30th March, to double-check that AJD had departed, Paul found and photographed a Black-tailed Godwit. Unfortunately, it did not stay and left early the next day before the rest of us could see it.

Two field trips were held in conjunction with the Whanganui Museum Botanical Group (WMBG). The first, to Kitto's Bush on Tokumaru West Road, confirmed the continued presence there of a small population of North Island Robin, a species first recorded at the site in the mid-1990s. Tūi, Bellbird and Kererū were also present in good numbers, but the soundscape was dominated by chorusing cicadas, making it difficult to hear bird calls. This must limit bird communication at times.

A second field trip, also held in conjunction with WMBG, along with several Birds New Zealand members from the Manawatū region, was to Koitiata Lagoon and an adjacent swamp, near the mouth of the Turakina River. The lagoon is a known hotspot for Black-fronted and Banded Dotterel, with Fernbird occurring in the surrounding marsh. All three species were seen or heard, with 9 Black-fronted Dotterel (including at least 1 juvenile) and 45 Banded Dotterel being counted. They showed interesting habitat preferences, with the Black-fronted Dotterel feeding primarily along the water's edge, whereas the Banded Dotterels were roosting, interacting and feeding across the mudflats, where there was an emergence of small flies. eBird checklists have been submitted for all sites.
– *PETER FROST*

MANAWATU

After a couple of years without a Regional Representative, the Manawatu region is set to ramp-up again with a reluctant RR and the prospect of regular meetings and irregular outings! Birdwise, this summer was notable for the breeding of NZ Falcons in Palmerston North, a pair that took up residence at Massey University two winters ago and this year nested in an urban golf course. Massey also surprised us two summers ago with Little Shags nesting in willows at the vet pond, and they did so again this season. Also, in Palmerston North an influx of adult Black-billed Gulls in January to a local park probably represented a failed local colony giving up and switching to handouts with the ducks. Otherwise most of the birding interest has been around the Manawatu Estuary, which had a fairly quiet summer. A Curlew Sandpiper was the only unusual wader resident through the season, but a New Zealand Dotterel in November was a good record. A Common Tern has been reported regularly through the summer, and in early April a bird in breeding plumage was seen there (could this be the same bird seen in breeding plumage at the same time last year?). At the same time an alpha-flagged Black-fronted Tern from Marlborough was seen.
– *PHIL BATTLEY*

WAIRARAPA

Summer saw some of our group once again involved with the Caspian Tern colony at Onoke Spit. Things were looking unusually promising with 17 chicks hatching. Two weeks later only one appeared to remain for reasons unknown. There is an ongoing trapping regime in place, plus signage, so some suspicion may fall on the adjacent Southern Black-backed gull colony.

The Lake Wairarapa wader survey turned up a rarity for us; a Gull-billed Tern, only the second recorded there. There were fewer Pacific Golden Plover than we had hoped and no sandpipers, unfortunately. Good numbers of Black-billed Gull, Banded Dotterel and Bar-tailed Godwit were recorded. The results of these wader surveys gain greater significance now that there is talk of trialling the raising of the lake level up to a metre (thus inundating the feeding and overwintering grounds for wader birds). Concerns about the water quality of the lake appear to be the catalyst for this proposal. The lake has been artificially

managed since the 1960s by the Barrage Gates at the south end. This issue will be closely scrutinised by our group.

The February trip took 5 of us to explore new birding territory around Waikanae. Our first port of call was Pharazyn Reserve following advice from Geoff de Lisle. These are the old oxidation ponds for Waikanae and have had an impressive amount of restoration work. They were heavily occupied by a wide number of species including Royal Spoonbill, and a large number of NZ Scaup and NZ Dabchick. We were lucky enough to see dabchick chicks riding on a parental back (until the parent dived). Four species of shag were recorded, with much evidence of nesting in the pines behind the lakes. Following that was a walk along the banks of the Waikanae River and Estuary. There was plenty of birdlife but perhaps a more predictable mix.

A very successful *eBird* training session was held in March, run by two of the group (Toni and Joanna) using the interactive resource from the Birds New Zealand website. That was followed up by a trip to Lake Onoke, where not only were counting and recording skills put to the test but also bird ID as a group of Black-fronted Terns (not often seen in these parts) were roosting on the bar along with a large (~750) group of White-fronted Terns.
– *JOANNA McVEAGH & OLIVER DRUCE*

WELLINGTON

2019 is going to be another busy year for bird translocations in the Wellington region. In March, Rifleman were transferred from the Wellington Regional Council mainland island area in Wainuiomata to the Zealandia Ecosanctuary. The plan is to transfer 60 birds this year and by late March this quota was getting close to being filled. The transfer was originally planned for 2017 but was postponed because of concern about insufficient numbers of birds in the source population. Friends of Mana Island (FOMI) have been busy with the first of three proposed transfers of White-faced Storm Petrels from Rangatira, Chatham Islands taking place in February. The transferred chicks were kept in artificial burrows and fed daily with sardine smoothies until they fledged. By the beginning of March all but one of the 48 transferred birds had fledged and flown out to sea. Another two transfers of 100 birds each are planned for the next two years.

In April, FOMI will be managing the transfer of Fernbirds from Lake Rotokare, just out of Eltham in Taranaki to Mana Island. The Lake Rotokare reserve is a predator-free fenced area of 230-hectares which was also the source of Fernbirds for the transfer to Pauatahanui Reserve in the previous two years. Breeding of Fernbirds has occurred at the Pauatahanui Reserve as evidenced by unbanded fledglings and nesting activity. The associated predator control at Pauatahanui appears to have benefits for other bird species with recent sightings of Spotless Crake and Banded Rail. Wellington Birds New Zealand members have helped with these transfers and will also be involved with the post-transfer monitoring. Finally, Colin Miskelly reported seeing a Juan Fernandez Petrel flying past while at sea, north-west of Mana Island on 24/3. – *GEOFF DE LISLE*

NELSON

Earlier in the year our region's prevalent focus was on serious wild fires in a tinder dry area, and a worrying drought, with stringent water restrictions for the Tasman Area. Nevertheless, the Artic waders got away as usual. Two "Top of the South" banded Bar-tailed Godwits were spotted in China on 31st March by David Melville.

Estuaries have become feeding and roosting haunts for many Pied Stilts, small groups of Banded Dotterels and Wrybill, and attract other wintering birds, such as Sacred Kingfishers, SIPOs, and individual White Herons scattered around coastal areas, along with our usual local resident species. Little Black Shags haven't been reported yet. A Reef Heron has been seen on occasions this year from Delaware Bay, The Glen and around Nelson's Rocks Road. Many small rural ponds have dried up but Australian Wood Ducks have been reported from the pond at Hoddy's Park, between Richmond and Mapua.

The results of the Summer Wader Census from Rob Schuckard showed "about 50,000 birds have been counted, 46% migratory species and the rest endemic. This is the first time since we started with the Summer Wader Census in 1999 that endemic shorebirds have the highest number. This change is due to declines in migratory species, not an increase in endemic species. In total, 14 species were recorded with Wrybill, Pacific Golden Plover, Red-necked Stint, Whimbrel and Lesser Sand Plover among them. At this time of the year, 'Top of South Island' is hosting 25,000 South Island Pied Oystercatchers, about 25% of the total population of SIPO."

A member of the public diligently handed on a sighting of a tagged 'Red-billed Gull' found dead on Tahunanui Beach on 8th March, which later proved to be a Black-billed Gull banded as a chick on the Wairau River in December 2014. This bird has been recorded on both the Waimea Estuary and Wairau River areas during the last four years.

A very enjoyable and successful branch weekend trip to Farewell Spit led by Rob Schuckard and Willie Cook was undertaken in March with 14 participants including two junior members. Participants were drilled in wader census techniques, core sampling, wader identification and had time to visit the gannet colony. Indoor meetings are well attended with members keen to show photos and tell stories of their birding exploits.
– *GAIL D. QUAYLE*

CANTERBURY

Our first field trip of the year was the annual all-bird survey at Lake Ellesmere, organised by the Waihora Ellesmere Trust. While the cold wind didn't dissipate, the early rain thankfully cleared up. Apart from Bar-tailed Godwits, migratory waders were very thin on the ground, possibly due to the weather conditions. Grey Teal numbers were very low, down by two thirds from the 2018 count. However, Pied Stilt numbers were almost double the number counted last year. Full results from the survey can be accessed on |the Waihora Ellesmere Trust website: http://www.wet.org.nz/projects/annual-bird-count/2019-te-waihora-lake-ellesmere-bird-count/

In March, 6 members spent the weekend in Twizel, exploring the surrounding area. One of the highlights was a visit to the Tasman Delta that yielded 7 Black Stilts among other species. Those who attended also got to meet up with DOC staff to learn about the current state of the species and its management.

Some of the most interesting sightings of late have been from the east of Christchurch. A Cape Barren Goose was spotted at Travis Wetlands in late February and has been found multiple times since. In late March, a Spotless Crake was seen at the newly developed Clare Park Basin wetlands. A couple of weeks later, a Marsh Crake was seen at the same location. It is great to see these wetlands already being utilised by these species. Meanwhile, up to 3 White-winged Black Terns have been reported at the Bromley Oxidation Ponds. An Otago Shag was found at the Ashburton River Mouth in late March among the masses of Spotted Shags. Even further south at Washdyke Lagoon, a Black Stilt and a Sharp-tailed Sandpiper have been reported.
– *ELEANOR GUNBY*

SOUTHLAND

It has been a fairly quiet time of year here in Southland on the birding scene for the past few months and there seems to have been few birding outings taking place.

The Pleasure Bay/Tip Lagoon area has turned up few rarities this Summer in contrast to last year's influx, and our regular visitors such as Northern Shoveler and Marsh Sandpiper didn't stay with us for long. Our large flock of Chestnut-breasted Shelduck had dwindled down to a single male by 9/2 after a high of at least 9 birds in November.

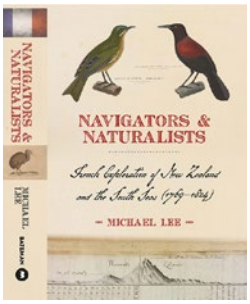
Gull-billed Terns remained in the area with one flying over the Tip Lagoon close to the estuary on 28/2, but it didn't hang around and possibly headed back to Awarua Bay where there has been a number of sightings of this species, including on 7/3 when I spotted one out on the mud banks at the end of Awarua Bay Road. It was being chased by a Southern Black-backed Gull, which is what alerted me to its presence.

Other sightings of interest in Southland were a New Zealand Falcon and an Eastern Curlew at Haldane Bay on 9/2, an Australasian Bittern seen flying over the gravel road into Awarua Bay on 10/2, and a Long-tailed Skua seen in Foveaux Strait on 16/2. Neil Robertson reported a Spotless Crake from Mirror Lakes on 20/2 and a Grey-tailed Tattler at Riverton on 21/2 – this is possibly a first sighting of this species in this location. Good numbers of Morepork were seen on the Foreshore Trail at Milford Sound, with 5 being reported on eBird on 11/3.

Two California Quail were seen at probably the southern-most limit of their range on the main highway between Garston and Kingston on 13/3 and a pair of Black-fronted Dotterel was spotted on the Aparima River south of Otautau by Shawn Herron on 17/3.
Our regular White Heron Autumn visitor was seen in the Waihopai River close to the New River Estuary on 16/3 and was still flying around at the Tip Lagoon on 7/4.
– *PHIL RHODES*

Reviews

Navigators & Naturalists Bateman: Price $56



This handsomely produced 480-page 245 x 170 mm hard cover book written by Michael Lee is a fascinating account of French explorers and naturalists in New Zealand and the South Pacific from 1769 to 1824.

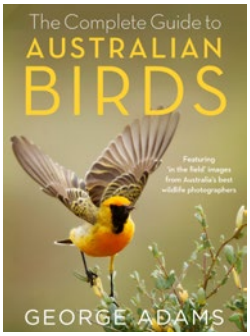
The author is both a keen historian and ornithologist, and his research will be familiar to readers of *Notornis*, where he has published previously on the early French naturalists in New Zealand.

Much of the book concerns the voyages of early French explorers such as Bougainville, D'Entrecasteaux, Kermadec and D'Urville, but there is still space for broad coverage of natural history subjects, including some 60 bird species that occur in the New Zealand region.

The lively narrative recounts some interesting observations of New Zealand birds by René Primevère Lesson and Prosper Garnot, such as their comparisons of some of the New Zealand birds they saw with birds familiar to them in Europe. For example, 'Sea-Snipes' were probably coastal waders such as Bar-tailed Godwits and Pacific Golden Plovers. The author also discusses interesting potential sightings of South Island Snipe and North Island Snipe from 1773 and 1820, and notes interesting local Maori bird names such as North Island Saddleback being called *tira-ou-ke* in the Bay of Islands in 1824.

The 14 bird illustrations include early colour plates of North Island Saddleback, Bellbird, Kaka and Northern Brown Kiwi. This is a remarkable work of maritime and natural history in the tradition of Dame Anne Salmond and Michael King. It is highly recommended.

The Complete Guide to Australian Birds Penguin Price AUD$45



This comprehensive 274-page 170 x 235 mm soft cover book written by George Adams is an outstanding publication. The quality of the more than 1,400 photographs is consistently excellent throughout, the collective work of more than 250 of Australia's leading bird photographers and birders.

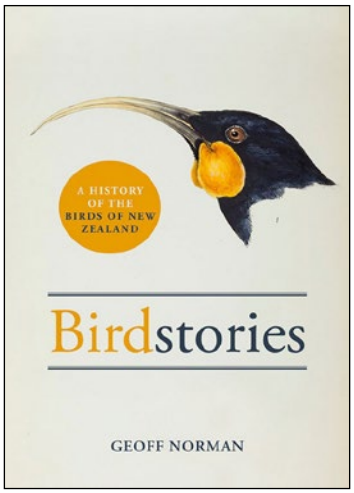
It's not long since the *Australian Bird Guide* (ABG) was published by CSIRO Publishing in 2017 to widespread acclaim. *The Complete Guide to Australian Birds*, published in late 2018 by Penguin Books, is also a humdinger.

The text and layout are clear and unfussed. Yes, more text could be squeezed onto each page but in this instance, leaving some clear space below each species range map definitely means 'less is more'.

There is excellent coverage of the seabirds, waterfowl and waders, but if anything, the raptors, cuckoos, kingfishers, pigeons and songbirds are even better served – particularly the honeyeaters and fairywrens.

And while it does not have the breadth of illustration found in the ABG, to have set out to match it would have required a much larger format work. With more than 800 species covered, it's not surprising this book is almost as large and weighty as the ABG. But, given that so many birders in Australia now rely on apps in the field and so many birding locations there require access by car, the book's bulk is no longer the impediment it would have been just a few years ago.

Bird Stories Potton & Burton Price $60



This beautifully produced and extensively illustrated full colour 372-page 260 x 184 mm hard cover book is a labour of love. It's also a brilliant book in every sense; author Geoff Norman's depth of knowledge and expertise in this field shines through every page. His previous book, *Buller's Birds of New Zealand: the complete work of J.G. Keulemans* (Te Papa Press), won the NZ Herald's book of the year award in 2012 and was a finalist in the 2013 NZ Post Book Awards.

This new book describes with obvious delight the many stories of New Zealand's birds, their place in the Pakeha and Maori worlds, the impact of human colonisation on them, their origins and conservation, and the beautiful visual art they have inspired.

The narrative draws on early European accounts such as Buller's descriptions in *A History of the Birds of New Zealand*, as well as contemporary texts and studies, all of which are referenced in 16 pages of endnotes and a 15-page bibliography.

I especially enjoyed the ornithological and related art history detective stories that he recounts. They reminded me of the BBC TV series *Fake or Fortune*, in which the provenance of a putative Constable or Renoir canvas is investigated and the opinions of leading art historians consulted to determine its identity. In this case, bird skins from museum collections and hitherto obscure 18th Century artworks depicting New Zealand birds are the subject of inquiry.

The presentation also impresses. The high-quality coated paper means the reproductions are vivid and rich, and the author's selection of paintings, illustrations and photographs is both excellent and representative. The more than 380 mostly colour illustrations help bring the stories to life.

Notable early gems include cave art of moa and colour lithographs of South Island Kokako by Jean Gabriel Pretre and Long-tailed Cuckoo by Georg Forster. John Gerrard Keulemans is well represented by paintings and lithographs of Kokako, Huia, Wrybill, Dieffenbach's Rail and NZ Little Bittern. There are also sumptuous hand-coloured lithographs of Norfolk Island Kaka and New Zealand Kaka by John Gould and Henry Richter, vibrant parrots and parakeets by Edward Lear, and a beautiful Huia lithograph by Elizabeth Gould.

From the modern era the author has included Don Binney's iconic *The Fall of Icarus*, Ray Ching's sublime *Kakapo Choir*, and Nigel Brown's poignant *Short Lives of Birds*. Rachel Walker's *Hihi*, Emma Louise Pratt's *Koekoea*, John Pusateri's *Huia*, and Derek Onley's *Banded Dotterel* also stand out.

Historical photographs include Geoffrey Orbell and Neil McRostie with two Takahe, and the only photos of living Laughing Owl and Bush Wren. There are also images of contemporary banknotes that depict North Island Kokako and Yellowhead based on photographs by Rod Morris.

It would have been nice to see more seabirds illustrated but even so, I would not hesitate to recommend this book very highly.

I hope that one of our museums will in future mount an exhibition showcasing important historical paintings and illustrations of New Zealand birds and recounting the history of their visual representation from cave art and early paintings, lithography and photography to contemporary artworks and digital photography.

MICHAEL SZABO

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