

Pūkorooro Miranda News

Journal of the Pūkorooro Miranda Naturalists' Trust

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Gillian Vaughan QSM
For services to wildlife conservation



Exciting new godwit research
Roost appeal passes \$120,000
Trust faces financial challenges



Medal honours Gillian Vaughan's work for shorebirds

Gillian Vaughan received a well-deserved Queen's Service Medal in the New Year Honours for 'services to wildlife conservation' which include eight years as chair of PMNT, eight years as editor of its magazine and 13 years - and still going - as a voluntary tutor. **Keith Woodley** looks back on her amazing record.

Like many organisations in this country, PMNT relies heavily on volunteers for much of its operations and activities, and over its long history it has been well served by many such people. Among them are a number of individuals that, in my view, have been instrumental in driving its success. In most cases, they have stayed on the scene for a long time and this continuity is a key element that helps explain the Trust's longevity and achievements. Gillian is one of those people, and her Queen's Service Medal is a reflection of it.

We first became aware of Gillian as a field course participant in 2000. She soon became a regular visitor and volunteer, as well as participating in bird banding sessions. Before long she had assumed the role of editor, which she held for the next eight years, relinquishing it in 2010 to become Trust Chair. Except it did not quite happen like that. We had approached Jim Eagles to succeed her as Editor but, while he expressed keen interest, it was to be two years before he fully retired from his position at the *NZ Herald*. Thus, for two years Gillian was both Chair and Editor. Her success in these two major roles was testimony to her energy and skills, and a colossal number of volunteer hours

During her tenure as Chair Gillian led the Trust in a highly effective way marked by efficiency and acute strategic thinking. She presided over a period of significant changes for the Trust. One potentially difficult one was the decision to change our name to Pūkorokoro Miranda Naturalists' Trust. In 2012 we became fully aware of a deeply seated grievance of local iwi, Ngati Paoa, over the name Miranda. It was the name of a Royal Navy ship which, in 1863, at the beginning of the Waikato War, attacked and displaced local iwi. Not only were they then subject to land confiscations, they witnessed their name for the area - Pūkorokoro - supplanted by that of Miranda. The Trust has a long and valued relationship with Ngati Paoa and we decided to approach them with a proposal to add Pūkorokoro to our name. This was very well received but to implement it required a motion at a special general meeting to change the Trust's constitution. This was potentially



KEY MEETING: Gillian Vaughan hosts the Chinese Ambassador Wang Lutong.

contentious but, in the event, the motion passed unanimously. That it did so was due in no small part to Gillian's leadership and advocacy on the issue.

Purchase of the Robert Findlay Wildlife Reserve was another massive moment for the Trust. Raising the purchase price of \$400,000 was a major undertaking but, working with our fund-raising coordinator Alister Harlow, Gillian successfully led the effort to secure the amount required.


Gillian has always been a strong advocate for our work in the Flyway and was a highly valued member of the PMNT team on several visits to China and Korea. On behalf of the Trust she hosted two visits by the Ambassador of Peoples Republic of China to Pūkorokoro, together with a signing ceremony at vice-ministerial level for an agreement between the governments of China and New Zealand on working towards protection of shorebirds.

A further enormous contribution was co-authoring the Yalu Jiang Estuary Shorebird Survey Report 1999-2010. This bi-lingual publication documented the critical importance of the reserve for migratory shorebirds. The complex report represented a massive effort by its authors, requiring regular liaising with Chinese colleagues each step of the way, all on a voluntary basis.

Locally, Gillian has over the years given vast amounts of time sharing her skills and knowledge of migratory and

other birds, especially during our training courses. Our annual field course in January is a flagship event which, after 22 years, continues to be popular. Shortly after doing the 2000 course, Gillian began to assist at subsequent courses, but before long this had expanded to a full time tutor role. Her energy and intelligence, and her way of imparting knowledge and expertise in a warm and engaging manner, makes her a highly effective teacher and indispensable member of the team.

Apart from involvement with PMNT, Gillian also contributes a lot of time to Birds New Zealand. She is a regular contributor to the National Wader Census scheme that has recorded data on all New Zealand shorebirds since the 1980s. She is also the convenor of the Society's Moulting Record Scheme, a scientific project to describe the pattern and timing of wing and tail moult in all New Zealand bird species.

The massive commitments of time and energy Gillian has made to both PMNT and Birds New Zealand have occurred while she has also held a senior position in the corporate sector. It is most fitting that her accomplishments have now been officially recognised. That she has also initiated a tradition of arriving for Trust council meetings bearing an excellent cup of coffee for the Centre Manager is merely one more quality worthy of acknowledgment. 

COVER: Gillian Vaughan banding a South Island Pied Oystercatcher. **Photo by Jim Eagles**



LOOKING GOOD:
The idea of moving a house like this on to the Shorebird Centre site is starting to become a reality.

Shorebird Snippets

Manager's Roost appeal tops \$120,000

PMNT has already raised a third of the \$350,000 needed to buy a new house for the Shorebird Centre Manager.

The Manager's Roost Appeal, launched in *PM News 114*, started with \$20,000 – a donation towards building which has been in the reserves for a while – and thanks to 77 large and small amounts it quickly went past the \$50,000 mark then reached \$75,000. Shortly before the magazine went to the printers an amazingly generous donation of \$25,000, plus a promise of a further big sum at a more convenient time in the tax cycle, meant we were a third of the way there.

Buildings Subcommittee chair Ann Buckmaster said she was thrilled at the support for the appeal and thanked all those who contributed. 'We've already got enough money to reach the framing stage and maybe to even put the roof on. But obviously we need a bit more. Every donation, large or small, that people are able to give gets us a bit nearer to seeing a big truck drive through the Shorebird Centre gateway.'

PMNT, she noted, is now in its 45th year. 'The Shorebird Centre couldn't function without a resident manager so it is essential we are able to provide a code compliant place for him or her to live so that PMNT can continue for another 45 years.'

Meanwhile, now the Trust is in a position to meet a substantial part of the cost of a house, fundraiser Alister Harlow is investigating funding organisations which might offer grants towards the project.

Birds migrating earlier

New research published in *Nature Climate Change* has found that the timing of spring bird migration across North America is shifting as a result of climate change. The study, one of the first to examine the

subject at a continental scale, was done by scientists at Colorado State University, the Cornell Lab of Ornithology, and the University of Massachusetts.

Using 24 years of weather radar data, the study found that spring migrants were likely to pass certain stops earlier than they would have 20 years ago. Temperature and migration timing were closely aligned, with the greatest changes in migration timing occurring in regions warming most rapidly. Lead author Kyle Horton, an assistant professor at Colorado State University, noted that the timing shift didn't necessarily mean that the birds are keeping pace with climate change. There was still concern about a mismatch between when birds arrive and when the blooming plants and insects they need for food are at their peak.

Break-ins at car park

There has been a brief resumption of break-ins to vehicles left at the Findlay Reserve car park. There were two incidents involving four cars on one day and the video cameras at the car park showed someone in a hooded jacket picking up stones and using them to smash windows before ransacking the cars. A few days later the video showed someone acting suspiciously but no thefts were reported. Manager Keith

Woodley said videos and information had been passed to Police who had assured him they were taking the crimes seriously.

Phone bills for birds

Russian researchers tracking migrating eagles using transmitters which send SMS messages ran out of money after some of the birds flew to Iran and their messages drew huge data roaming charges.

Altogether 13 birds from southern Russia and Kazakhstan, which fly to South Asia for the northern winter, were being tracked in a project by the Wild Animal Rehabilitation Centre in Novosibirsk.

The journey of one eagle called Min was particularly expensive. During the early part of its flight through Kazakhstan, where SMS messages cost only 15 roubles, Min flew out of range of the local mobile network. Instead it went to Iran, where each SMS costs 49 roubles, and sent the huge backlog of messages, using up the entire tracking budget.

When the huge roaming bills poured in the scientists launched a crowd-funding page called 'Top up the eagles' mobiles' which raised about 100,000 roubles. Then Russian mobile phone operator Megafon heard of the problem and paid off the rest of the bills. As a result the project has been able to continue its tracking work.

What's on at the Shorebird Centre

15 March, Migration Day

2pm Andrew Crowe, award-winning author of *Pathway of the Birds: the voyaging achievements and their Polynesian ancestors*, will talk about 'Pacific Exploration: The navigational role traditionally played by birds'. High tide at 12.34pm for birdwatching.

10 May, Annual Meeting of the Pūkoro Mirānda Naturalists' Trust.

13-21 June, Restoration Planting at the Robert Findlay Wildlife Reserve
Contact the Centre for details.

Predator destroys eggs



Hopes that the small Black-billed Gull colony on the shellbank (shown above) would raise chicks this year have been shattered by the arrival of a predator, probably a cat, which ate their eggs.

At the peak there were 30 nests with birds sitting on eggs so, after a few seasons in which the gulls didn't nest on the shellbank, there was optimism that this time they might be successful.

But then a few nests were abandoned and, when Tony Habraken and Amanda Hunt went to check, they found several deserted nests including one containing a broken egg with a fang mark on it. Subsequently all the nests were abandoned.

The Findlay Reserve and the shellbank are protected by a network of traps which at present are serviced by an extremely conscientious DOC contractor. The plan is to review the predator protection work before next season and possibly try out new traps including some specifically for cats.

Four book awards



PMNT member Andrew Crowe (above) has won four awards for his latest book, *Pathway of the Birds*, about the amazing voyaging achievements of the Polynesians, including the role of shorebirds in navigation.

Andrew recently received a parcel containing two framed certificates from

Hawaii's Ka Palapala Po'okela Book Awards. *Pathway of the Birds* received the top awards in the both the Reference Book and Photo Book categories. That comes on top of earlier winning the New Zealand Heritage Book Awards 2019 and a Storylines Notable Book Award 2019.

Andrew will be the speaker at this year's Migration Day, Sunday 15 March, talking on 'The navigational role traditionally played by birds.' The book is on sale at the Shorebird Centre for \$49.90.

Long time member dies

Gerald Assen has died at 86. He was a long time member of PMNT who farmed at Taramaire for many years. As a further link he was also grandfather of Kristelle Wi who was Centre assistant for several years. The funeral was at St Paschal's Church, in Ngatea.

International BG census

A special Bar-tailed Godwit census is being held in New Zealand and Australia this month as part of an international effort to find out how many of the birds there are.

Keith Woodley explains that there has long been a problem that we do not have

an accurate idea of how many there are.

'Godwit numbers in New Zealand have declined significantly from about 100,000 in the 1990s to about 75,000 birds today,' he says. 'Counts in New Zealand indicate that the population may have stabilized since 2004, yet estimated adult survival suggests a continuing population decline of 5-6% per year. Such disparity requires an urgent update of the best field information.'

Prior to the birds leaving Alaska in 2019, US Geological Survey researchers completed a successful aerial count of godwits. 'This,' Keith says, 'presents us with a rare opportunity to develop an accurate estimate of the population.'

As a result, a national godwit census is planned for New Zealand during a prolonged high tide series in 8-14 February 2020. 'To obtain the best estimate of the population it is important to get accurate counts at sites which support large flocks,' he says. 'The census is also timed to coincide with counts at major sites in eastern Australia.'

•The table below shows the estimated Bar-tailed Godwit populations at major New Zealand roosts. 

North Island	Est. Percentage	South Island	Est. Percentage
Ahuriiri Estuary	0.27%	Avon-Heathcote Estuary	1.84%
Aotea Harbour	2.13%	Awarua Bay	0.75%
Bowentown	1.27%	Blueskin Bay	0.63%
Coromandel	1.44%	Catlins Lake	0.28%
Firth of Thames	8.55%	Farewell Spit	11.18%
Houhora Harbour	0.67%	Golden Bay	1.31%
Kaipara Harbour	15.87%	Invercargill	1.03%
Kawhia Harbour	3.56%	Karamea	0.37%
Maketu - Little Waihi	1.14%	Lyttelton Harbour	0.41%
Manawatu Estuary	0.29%	Otago Harbour	0.28%
Mangawhai Estuary	0.53%	Otago Peninsula	0.87%
Manukau Harbour	16.98%	Riverton	0.26%
Ohiwa Harbour	2.56%	Tasman Bay	4.01%
Parengarenga Harbour	1.34%	Westhaven Inlet	1.46%
Porangahau	0.26%		
Raglan Harbour	0.57%		
Rangaunu Harbour	3.90%		
Tauranga Harbour	7.40%		
Whangarei Harbour	2.83%		
Whitford	1.39%		
TOTAL	73%		25%



HANGING OUT: A Broad-billed Sandpiper keeps company with more familiar birds. Photo / Black Stallion Photography

A time of unfamiliar birds and unfamiliar places

The Stilt Hide was the place to be if you wanted to see the small stuff this season. Wrybill regularly roosted there, often immediately in front of the hide, and as

anyone familiar with Pūkorokoro Miranda knows, that is where to look for the oddities. Scanning through the flock or along its edges regularly turned up good views of the Broad-billed Sandpiper, one of two reported since November. Its smaller size, not much bigger than a stint and thus considerably smaller than a Wrybill, was often what drew the eye. This even before a view of its key features: the inordinately long bill for a bird so small, and its peculiarly striped crown pattern. Their breeding range extends from northern Scandinavia to northern Siberia. Western birds migrate southeast towards eastern Africa and India, while more easterly breeders winter in South East Asia or Australia. They occur irregularly in New Zealand as vagrants. There are about 20 records but this is thought to be an underestimate as it may often go unreported. The current birds are thought to be the ninth record for the Firth.

During the field course another rarity turned up, the Lesser Sand Plover, a visitor from Central Asia, which attracted a lot of attention plus debate on Internet forums as to what it was. Superficially, in size and structure it resembles a Banded Dotterel, though careful examination of various features – such as overall colouration, bill length and structure, leg length and colour – can often be sufficient to separate it. Of course, if it is an adult and stays around for a few weeks, it should moult into breeding plumage, at which point all doubt is eliminated.

Often it is all too easy to overlook the commonplace. Pied Stilts are one of the most numerous shorebirds here and the Stilt Ponds are aptly named. During the nonbreeding season the Firth is one of their most important sites. But so much are they part of the visual fabric of the place they tend to get hidden in plain view. So, I was interested in the attention I gave to the single stilt that turned up on

the almost dry bed of Widgery Lake in mid-January, and the three more present the next day. Was it because they are uncommon on the lake? Or was it proximity to the Centre? Or just the vivid contrast of these black and white creatures perched on improbably long pink legs, draped in bright afternoon light and set to a backdrop of green brown substrate and water? Early next morning as I set out to the letterbox they were arrayed in the middle of the driveway, dispersing noisily on my approach, and I was still paying them more attention than usual.

Over the last year or so the roost at Piako has steadily assumed prominence as a birding destination. Prior to that other roosts around the Firth were largely below our radar and the major ones – the mouth of the Piako River, the shellbank on the east side of the Waihou River behind Thames airfield – were not easy to access. But during a storm a couple of years ago a stopbank near the Piako mouth was breached, flooding a few hectares of farmland, semi-submerging cattle troughs, fence lines and the remains of an old barn. Now festooned with mangrove seedlings the area is a roost for thousands of birds. Several thousand Bar-tailed Godwits regularly feature, as did two Black-tailed Godwits and a Hudsonian Godwit. From time to time up to 2000 Red Knot might also be seen, along with a few hundred Wrybill and 30 or so Pacific Golden Plovers. Pied Stilts, Pied Oystercatchers, a few dozen Royal Spoonbills, numerous ducks – including several Pateke/Brown Teal – and a lot of White-faced Herons also feature. Three Far Eastern Curlew and up to 11 Whimbrel have also been seen. The regular presence of the curlews at the Findlay Reserve was evidence of commuting between the two sites. All up, it has become a fantastic roost.

Keith Woodley

Recent sightings at Pūkorokoro

Arctic Migrants

- 6290 Bar-tailed Godwit
- 2000 Red Knot
- 37 Pacific Golden Plover
- 15 Turnstone
- 4 Sharp-tailed Sandpiper
- 3 Far Eastern Curlew
- 3 Whimbrel
- 2 Red-necked Stint
- 2 Broad-billed Sandpiper
- 1 Curlew Sandpiper
- 1 Hudsonian Godwit
- 1 Black-tailed Godwit
- 1 Lesser Sand Plover

NZ Species

- 2200 SI Pied Oystercatcher
- 1800 Wrybill
- 52 Royal Spoonbill
- 23 Banded Dotterel
- 20 Caspian Tern
- 8 Variable Oystercatcher
- 8 NZ Dotterel
- Australasian Shoveler
- Banded Rail
- Hybrid Black Stilt
- Pied Stilt
- White Fronted Tern



THINKING GLOBALLY: (from left) The international catching team crammed into the Stilt Hide; godwit 4RBWB who moved to Lake Ellesmere from the Manawatu Estuary in November 2019. Photos / Adrian Riegen, Mavis Hirini.

Finding out more about our godwits

Phil Battley, Associate Professor in Zoology at Massey University, reports on two exciting satellite tracking projects: one which is already discovering what juvenile Bar-tailed Godwits do when they range around New Zealand; the second to find out how adult godwits respond to challenging conditions around the Yellow Sea.

New Zealand's Bar-tailed Godwits hit the world news in 2007 when an international group of researchers spearheaded by Bob Gill of the US Geological Survey congregated at Pūkoro Mirānda, satellite-tagged a bunch of godwits, and documented their 10,000-km non-stop flights to the Yellow Sea, and even longer flights from Alaska to New Zealand (11,000+ km).

The knowledge that our godwits make the longest endurance flights of any land-birds has firmly established the godwit in the scientific and popular Halls of Fame, and subsequent studies using geolocators at the Manawatu Estuary have increased our knowledge about the migratory timing and strategies of individuals.

Banding work and migration monitoring have also discovered that birds from southern New Zealand migrate earlier than those from northern New Zealand, and that young birds explore widely around the country before settling at what will become their second summer home for the rest of their lives.

The last decade has seen progressive

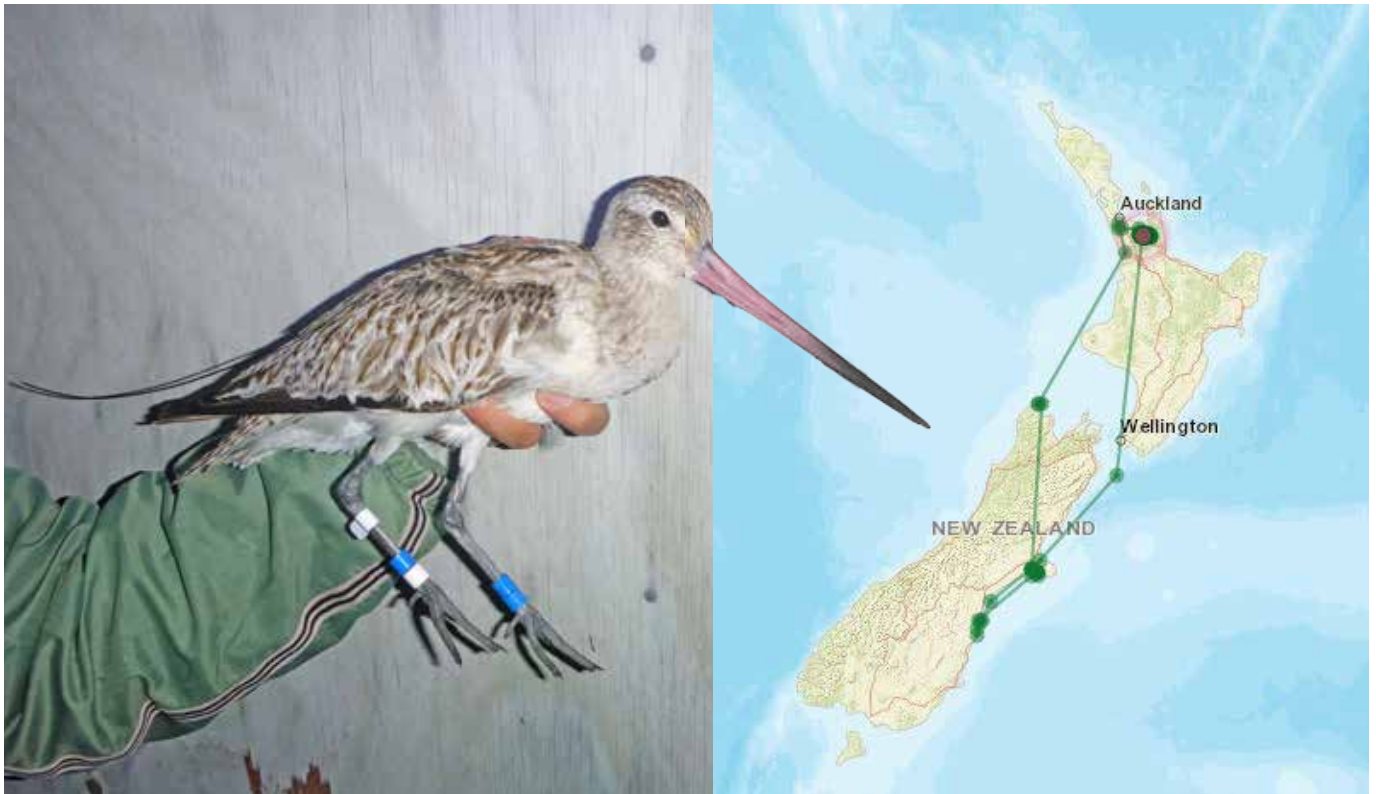
reductions in the size of satellite-tags, with 5-g solar-powered tags now being widely used, and 2-g tags coming onto the market. Unfortunately, the last decade has also seen continued habitat loss along the East Asian-Australasian Flyway, the collapse of a major food source at Yalu Jiang nature reserve in China, and progressive declines in the New Zealand-wintering godwit population. In 2019-20, researchers again gathered at Pūkoro Mirānda to embark on an ambitious month of godwit catching and satellite-tagging.

Two research projects brought together familiar and unfamiliar participants from far and wide, including long-time Pūkoro Mirānda regulars, irregulars and newbies from New Zealand (Phil Battley and Megan Jolly from Massey University, David Melville from Nelson, Adrian Riegen from Auckland), Asia (Katherine Leung, Hong Kong and China) and Europe (Jesse Conklin, exported to The Netherlands but an annual visitor to NZ, and Bart Kempnaers and Mihai Valcu from the Max Planck Institute in

Germany). All brought extensive field experience, some brought expensive technology, some brought novel attachment techniques, and all brought good luck. This was proven by the fact that our plans entirely hinged upon catching godwits on the Stilt Ponds, yet in the weeks leading up to our attempt no birds had used the Stilt Ponds. On the day before our start, a small number of birds were disturbed by a Harrier and sought refuge in the Stilt Ponds; the next day, our start day, it was all on – thousands of godwits on the ponds!

The two projects being embarked on targeted godwits of two age classes. In one (a collaboration with the Global Flyway Network funded by the TGear Foundation), we were aiming to tag adults to discover how they are responding to the challenging conditions in the Yellow Sea. Are their patterns of movements different now to a decade ago? Do they refuel entirely at one site or are they having to move around in search of adequate food?

In the other (with Bart Kempnaers from the Max Planck Institute for Orni-



HAPPY TRAVELLER: Godwit 4BBBW and a map of the travels it has already made around New Zealand since being tagged at Pūkoro Miranda. Photo / Phil Battley

thology) the aim was to tag juveniles, and track individuals for the next 2–3 years as they range around New Zealand (and possibly eastern Australia). How many birds make these exploratory movements? When do they settle, and does that affect when they start to migrate?

As both projects were using the same technology (Microwave Telemetry satellite-tags) we could combine efforts and expertise for the tagging.

Our good luck also continued with 2019 being far and away the best year for juvenile godwits any of us has experienced in New Zealand. Our plan for catching juveniles was to cannon-net them at the Manawatu Estuary, but we managed to mist-net seven at the Stilt Ponds while tagging adults at the start of the endeavour. At the Manawatu, juveniles out-numbered adults both in the field and in our nets. We couldn't have picked a better year.

We caught birds over three nights at the Stilt Ponds, made two cannon-net catches at the Manawatu Estuary, and finished up with one small successful mist-net catch at the Ohau Estuary (south of the Manawatu). In total we deployed 58 satellite-tags – 20 on adults and 38 on young birds. This was an incredible outcome given that it was entirely possible

that the juvenile project might fall over entirely if it was a bad breeding year.


We didn't expect the adults from Pūkoro Miranda to do anything much before migration, but already the surprises have started. One bird relocated to Raglan Harbour where it has stayed; this is probably a Raglan regular who makes Pūkoro Miranda its temporary home en route to the Waikato. One made a short visit to the Manukau Harbour, and two have gone to the Kaipara Harbour. We have documented movements of this scale via band resightings before, but it'll be interesting to see where these birds migrate from, and if they repeat the pattern next season.

The juveniles are where we expected to see exciting movements and, after waiting several weeks, finally these started when a Miranda (4BBBW) bird flew overnight towards the South Island, started transmitting once the sun's rays hit its tag's solar panel after 6 am, and quickly flew to Lake Ellesmere, Canterbury. Soon it was on the move again, flying towards Otago before returning the same day. And soon thereafter relocating to Golden Bay, then to the Manukau Harbour, and back to Miranda.

Clearly, for birds that can cross the Pacific Ocean, flitting around New Zealand

is hardly a challenge, and in the first three months, 16 of the 38 youngsters had already made regional moves from their tagging sites. This is expected to be a slow-burn project, gradually accumulating data over several years, but already it is clear that we will learn more from one year of tracking than we have from 10 years of band resightings.

You may well see some of these birds at Pūkoro Miranda. All have shiny new colourbands with a white flag above the bands on the right leg (position 4 in our banders' lingo), and as long as their transmitter is still attached, there will be a thin long antenna pointing out from the back. The tags are held on by a silicone harness to the lower back, and the tags themselves are small enough that they may be entirely invisible.

We're interested in all records of these birds, with or without antennae, so if you do see colour-banded godwits, have a good look and pass any records on to Adrian Riegen or me (p.battley@massey.ac.nz). We're also interested in whether these birds move in small flocks and of what size, and if they join the local residents and then leave again, so any supplementary information on behaviour, flock composition, etc, would be welcome too. 

Researcher find Miranda is a key site for migrant moths as well as birds

Visiting British ecologist **Sean Clancy** has discovered to his surprise that Pūkorokoro Miranda is an important arrival point not just for birds from the Arctic and the South Island but also moths from all round the world. This is his report on two surveys in the area round the Shorebird Centre.

I am a professional ecologist from the UK specialising in Lepidoptera, particularly moths. My work in the UK is largely carried out under contract and species-targeted; to this end I carry out annual fieldwork and produce annual reports on some of the most endangered moth species in the UK.

There the habitat available for the more specialised species has become highly fragmented and remaining populations have become isolated as a result. Thus much of the work I do is habitat monitoring, and advising land owners (and government bodies who fund habitat management on private land) on how best to maintain/manage the relevant pockets of habitat in order to enhance sites for the target species (and the suite of species associated with the habitat-type concerned).

I also carry out more generalised site survey work to establish which species of moth occur at a certain site and to clarify the status of these. It has become clear in the UK that nocturnal Lepidoptera can be an easily recorded indicator group of invertebrates that will show a site's characteristics and potential in terms of national importance and habitat-type, and help guide future management strategies and further survey efforts. I have also authored a field guide to the macromoths of Britain & Ireland – www.mothsofbritain.co.uk – a copy of which now resides in the Shorebird Centre library.

I visited New Zealand in December 2017 and was amazed at the extent and variety of habitats present, so much of it unsurveyed for invertebrates. The number of people studying Lepidoptera in New Zealand is very low compared to the UK so I was keen to return for a longer period in the 2018-19 summer and travel more widely surveying as many interesting



CAUGHT: Sean Clancy removes moths attracted to his light-trap round the back of the Shorebird Centre. Photo / Jim Eagles

sites as possible. To this end I have collaborated with Landcare Research, in particular New Zealand's number one moth expert Dr Robert Hoare, and spent two seasons travelling over both islands surveying a wide variety of sites by day and, particularly, using MV light-traps at night that strongly attract nocturnal insects.

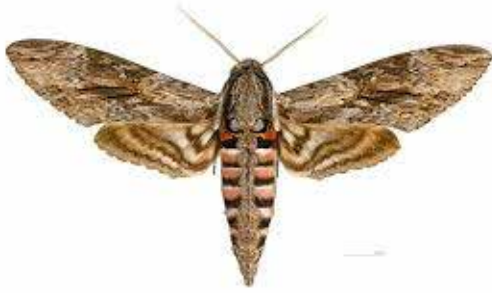
My work to date is being done on a largely voluntary basis, helping me to familiarise myself with New Zealand species, a majority of which were new to me in 2018.

As my work in the UK is limited seasonally, my aim is to promote the importance of nocturnal Lepidoptera within New Zealand's diverse ecosystems, and look for contract work here in subsequent summers surveying for this fascinating group of insects where required.

Pūkorokoro Miranda is, of course, a site famous for its migrant shorebirds but clearly is also an important arrival point for migrant moths.

I have recorded a number of recognised migrant species here such as *Agrius convolvuli* (the Convolvulus Hawkmoth), *Thysanoplusia orichalcea* (the Slender Burnished Brass), *Ctenoplusia limbirena* (the Scar Bank Gem or Silver U-tail), *Agrotis ipsilon* (the Dark Swordgrass, Corn Earworm, or Old World Bollworm) and *Spodoptera litura* (the Tobacco Cutworm or Cotton Leafworm, all tropical or subtropical species that migrate north and south in the two hemispheres and, incredibly, also occur as migrants in the UK.

Some of these have now colonised the Pūkorokoro area and other parts of North Island. Pūkorokoro also holds a number of specialised local resident moth species



Agrius convolvuli (Convolvulus Hawkmoth)



Thysanoplusia orichalcea
(Slender Burnished Brass)



Agrotis ipsilon (Dark Swordgrass)



Ctenoplusia limbirena (Scar Bank Gem)



Spodoptera litura (Tobacco Cutworm)




PIN-UPS: Some of the moths collected at the Centre.

Photos / Landcare Research, Wikipedia, Jim Eagles

associated with wetland, coastal and saltmarsh habitats.

I light-trapped three times during the 2018-19 summer, and am in the process of further light-trap surveys during the current summer period with the aim of putting together a report on my findings once I am back in the UK. All this would

not have been possible without the help and encouragement of the Shorebird Centre, and the assistance of Dr Hoare. A record of the larger moths recorded during my surveys will be part of my report and many unidentified smaller (micro) moths have been retained for closer examination by Dr Hoare, to be eventually placed in

the National Arthropod Collection at the Tamaki Campus of Auckland University. I hope my work and association with the Shorebird Centre will continue into the future during annual visits to New Zealand, leading to a detailed and valuable knowledge of the moths that reside in the Pūkoro area. 

Close your eyes and don't look. These drawings are clues to answering the questions in Godfrey Godwit's children's page on page 19. And you'll feel much better if you get them right without cheating.





WATER SUPPLY: Ray Buckmaster with the tank which has been hooked up to the Wrybill Hide to provide water for the restoration project. Photo / Jim Eagles

Restoration project off to an encouraging start

The plan to restore the Findlay Reserve to a healthy eco-system has taken some encouraging steps – including creating a nursery, raising seedlings, spraying fennel, creating a water supply and developing measuring techniques – but still has a very long way to go, **writes Ray Buckmaster**.

‘A journey of a thousand miles starts with a single step,’ so wrote Lao Tzu some 2,600 years ago. Only a year ago, the Trust started on a similar journey with the decision to restore the Robert Findlay Wildlife Reserve to a fully functioning, self-supporting, biodiverse, indigenous ecosystem.

How we might manage to do this was not totally clear at the time. What was obvious was that it needed to be done and it was going to take several years. Pleasingly there were many people who wanted to join the journey, becoming involved with our initial trial planting in July 2019 and indicating a wish to continue.

Now is perhaps an appropriate time to report the progress that has been made and the odd missteps that have been taken place in the first 12 months of this journey. These efforts have primarily been directed toward setting the scene for the planting of a 1ha area of the Reserve in June 2020.

- Thanks to the efforts of Bruce Postill we now have a costed and signed agreement with the landowner on our northern boundary for the establishment of a stock proof fence to protect our planned plantings. This work could be complete at time of publishing.

- A nursery is now well-established on Annie and Sean Wilson’s orchard at

Miranda (home of the Stray Dog Café and Miranda Gallery) and a growing number of plants are flourishing there.

- Several hectares of the Reserve are now fennel free, although there will be a future need to spot spray new seedlings as they appear. An unfortunate and unexpected consequence of the spraying has been the loss of some plants in our trial planting area.

- We have been able to monitor the impact of the extreme heat and lack of rain in recent weeks on the trial plot. We now have a better idea about the ideal locations for the varied species to be used in the restoration and will avoid some potentially costly mistakes.

- We also have a Health and Safety Plan to cover our activities on the Reserve (prepared with the help of Warwick Buckman of HELP which is much appreciated). The plan covers the hazards associated with herbicide spraying and the use of planting implements, including motorised soil augers (a copy can be viewed at the Shorebird Centre). Funding has allowed us to purchase appropriate protective equipment for these activities.

- We have developed vegetation maps of the area north of the Stilt Hide that we will start planting this year.

- Planting of the 10,000 plants is

planned for 13-21 June. For those who want to spend more than a day planting, free accommodation will be available in the Centre. Lunch will be provided on each Saturday. A significant number of plants will come from our nursery, but the bulk will be purchased with grant money from the DOC Community Fund.

- Before Christmas Adrian Riegen connected a 2,000l water tank to the roof of the Wrybill Hide. Having a source of water on the Reserve will make it much easier to dilute the herbicide sprays needed to prepare the land for planting. Funding for this came from the Valder Trust, which also funded the nursery upgrade.

Our current funding of \$40,000 from the DOC Community Fund is for a period up to October of this year. The Trust’s fundraiser Alister Harlow is working on an application for that funding to continue through the 2021 planting season. Hopefully it will be successful. But, if not, then there should still be at least 3,000 plants from our own nursery.

Seed is also being gathered to produce plants in the nursery for planting in 2021. One species, the Coastal Spear Grass, also known more amusingly as bugger grass or morality grass, will have to be raised by us. An attractive grass at a distance, closer inspection of its stiff hypodermic-like,

PROGRESS: (from top) Vegetation map for the start of the project; sprayed fennel; bugger grass; measuring the progress of oioi. Photos and map / Ray Buckmaster

body piercing leaves explain why it is not available in any nursery. It is a significant component of the restoration as seen at the restored coastal site at nearby Rangipo in a zone between glasswort and saltmarsh ribbon-wood.

We might need to include the bugger grass in our H&S Plan!

A big challenge for those involved in ecological restoration is being able to show that it is happening. A simple way of monitoring change is to keep a photographic record over time of areas being restored. The Trust has just put in place a string of drone launch pads so that we can collect a series of GPS-referenced aerial photos from a drone.

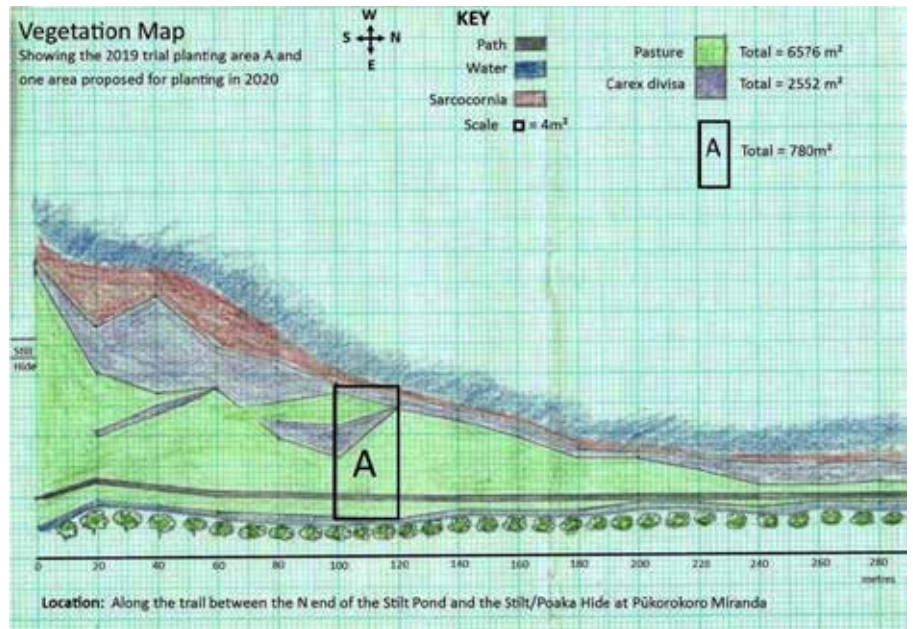
Determining the success, or otherwise, of individual plant species requires a bit more effort. A simple technique to measure growth of clump forming species, like bugger grass and oioi, has been used in our 2019 trial planting. It is quick and easy and seems quite promising. This level of detail is valuable for forward planning and to convince potential funders of our serious intent.

As the Reserve is gradually transformed, we could expect to see changes in the populations of birds, lizards and invertebrate species. We can certainly monitor change in bird populations. Ecoquest is already monitoring the lizard population. Beyond that things become a little challenging.

This restoration project is only in its early stages. We have a lot to still learn about the process itself and the many aspects that relate to it, be it fund raising, plant propagation or a range of other skills.

Beside our supporting organisations we are fortunate to have people on the team who have many of those abilities. We do have quite a few specialist gaps when it comes to monitoring that it would be great to fill. If you would like to join us on this journey, whether you have specialist skills or just want to be involved, please get in contact with the Trust at admin@shorebirds.org.nz. You will be very welcome.

We do put out an occasional newsletter called *Friends of the Findlay Reserve*. If you would like to be on the mailing list please contact the Shorebird Centre.



The mystery of JoJo's flight to NZ



Pacific Golden Plover project co-ordinator **Jim Eagles** looks back on three exciting months of bird tracking that saw one bird – the secretive and speedy JoJo (at right) – tracked up to the Arctic and almost back to New Zealand, and three new messengers caught and fitted with satellite tags, but also produced a few disappointments.

So near and yet so far. After all the exciting discoveries on the northward migration by our three Kuriri, our big hope for the southward leg was that at least one would complete the migratory circle and return to the Firth of Thames. That was always a longshot. There's always a risk of batteries going flat, tags being lost, birds getting injured or deciding to stop somewhere else. Wally Johnson tagged 20 birds on Moorea over two seasons and none returned.

Well, as far as we know none of our birds made it back, though it's faintly possible JoJo did, and there's still a chance of one of the trio being sighted here.

But, to go back to the beginning of their journey, you will recall that Amanda led the way north by departing from Pūkoro on 8 April, getting to the Japanese island of Honshu in eight days, with JoJo following four days later. After a relaxing five week stopover amid the rice paddies the two headed for the Yukon Kuskokwim Delta where they stayed and hopefully nested.

Wee Jimmy finally left New Zealand on 23 April and, to our surprise, turned up in Guam. After a few weeks there she did a grand tour via Okinawa, China and the Russian Far East, before crossing the Bering Strait to Alaska where she settled down near Lake Selewik. Her amazing journey lasted around 73 days – twice what JoJo took – and must have been at least 16,000km.

That was how things stayed until the end of August when Jim flew down to the YK Delta and all three birds gradually edged down to their departure point for the great southward migration. By mid-September PGPs had started arriving in New Zealand and we were looking forward to discovering what route our trio might take. Unfortunately about this time Amanda's tag stopped reporting and a few days later Jim's did the same.

At first we thought JoJo's had gone dead too but suddenly we heard he was halfway to New Zealand and on the island of Teraina in Kiribati. There he stayed, reporting from time to time, until on 25 October he headed for Tongatapu Island in Tonga and he settled down in some agricultural fields. Things went quiet again until on 26 November Lee sent a message saying, 'Exciting to see JoJo make a beeline for NZ. He must be heading there to warn the other plovers to avoid your nets. He is certainly there by now since the last inflight location was two days ago.'

This created a great flurry among the team which had gathered at the Shorebird Centre to catch more PGPs. And the excitement was even greater when JoJo Doyle, Keith Woodley and I went to the back of the shellbank and thought we saw a bird with an aerial, a white band and darker breeding plumage

than any of the newly tagged birds. That sounded very much like JoJo.

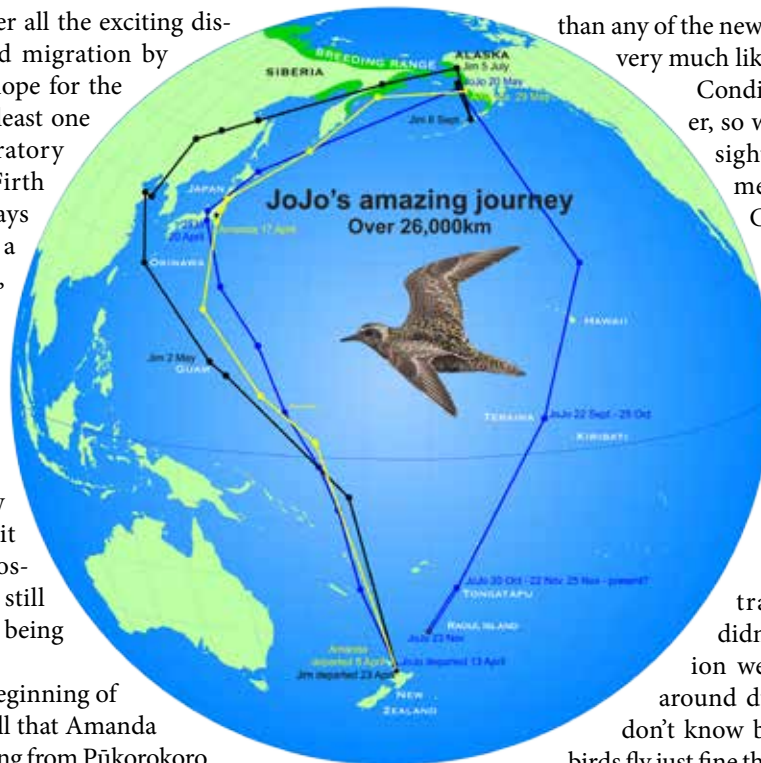
Conditions had been tricky, however, so we weren't sure enough of the sighting to make an announcement, which was just as well. Closer scrutiny of data from the satellite report showed a pinpoint which hadn't shown up on the Google Earth map, indicating JoJo had returned to Tonga. Global windmaps revealed that halfway to New Zealand he would have struck strong headwinds so a turnaround would have made sense.

Lee, the expert at satellite tracking, cautioned that we didn't know for sure. 'In my opinion we cannot say that he turned around due to headwinds. We really don't know based on one location. Some birds fly just fine through winds and just go slower or adjust their course. For all we know he could have come to NZ and then flown back to Tonga. The gap in reporting is long enough that he could have done that. So we don't really know what his route or timing was for that last turnaround.'

Unfortunately, at that point JoJo's tag died, leaving us without our eye in the sky to follow progress. Thereafter we were dependent on human observers to tell us where JoJo, Amanda or Jimmy travelled to. And so far, unlike on the northward leg, there have been no sightings. A Kiribati conservation worker tried to get locals on Teraina Island to look for JoJo but heard nothing. Volunteer conservationists in Tonga searched with no luck. At the time of writing a team from the LDS Church school on Tongatapu – which has an association with Brigham Young University Hawaii where our American plover-catchers hail from – is poised to investigate.

But, wherever JoJo ended up, his was an epic flight. On his northward journey he flew nonstop about 9,900km from the Firth of Thames to Japan, then a further 4,700km to Alaska, making a total of at least 14,600km. On his southward journey JoJo flew 6,300km from Alaska to Teraina and, then a further 3,300 to Tongatapu. Finally, on about 22 November, he flew a minimum of 1000km south towards New Zealand, getting at least as far as Raoul Island before returning to Tongatapu. At the time he turned round JoJo was at most only 1,000km from the Shorebird Centre after a migratory journey of 26,200km. And, as Lee says, he might even have got to New Zealand and decided he preferred Tonga.

Thanks to JoJo, Jimmy and Amanda we've learned vastly more about our Kuriri than we ever knew before. Now it's up to our new trackers, Whero, Tea and Kikorangi – and maybe a couple of others – to tell us even more.





TRACKERS: (from left) Tea, Whero and Kikorangi.

Photos / Phil Jackson, Jim Eagles

Three new pathfinders and maybe more to come

‘This is too good to be true,’ I thought, as 17 Kuriri made their way into our cannon-net catching area the very first time they had the opportunity. After all, last summer not a single one of these wary birds went into the catching area at any stage. So why were they suddenly being so co-operative? Like I said, it seemed too good to be true. And, unfortunately, it was.

But before turning to the mishaps which afflicted this year’s catching, let’s go back to what worked perfectly. Last summer JoJo Doyle, who organised the team of volunteers watching the PGP’s, noticed that when the birds arrived they followed a fairly consistent pattern of roosting on the mudflats and *Sarcocornia* at the Limeworks. It was only when the time for our catching approached in February that they became unpredictable.

So this time we decided to try catching in November when they might be too busy rediscovering the joys of Pūkorokoro to have developed capricious tendencies. We cut back on the monitoring in case this made the birds nervous. And Chelsea Ralls – in consultation with Lee Tibbitts from USGS and Catalina Amaya-Perilla from Lotek – reprogrammed the remaining seven tags to try to save more battery life for later in the birds’ journeys.

The Kuriri started arriving in September as usual and in the same numbers as last season. Early on they moved around a bit but quickly got into a pattern of snuggling into what JoJo – who had once again migrated from Vermont to keep an eye on them – called ‘their happy place’ in the *Sarcocornia* at the Limeworks. Much to our delight they were still doing that when the catching team assembled in the last week of November.

Sadly, the American contingent was minus Wally Johnson from Montana State University, the world authority on Pacific Golden Plovers, who was in hospital. But we were able to welcome back Wally’s team of plover catchers from Brigham Young University Hawaii consisting of academics Mike Weber and Dave Bybee plus students Emma Houghton and Tanner Smith. Meanwhile Adrian had brought together a top team including Gillian Vaughan and Ian Southey, John Stewart, Tony Habraken, Chelsea. JoJo and summer shoreguide Amanda Hunt. Videographer Johan Kok was there to continue filming for the planned documentary, and wife Chris and I couldn’t be kept away.

At low tide early on Monday 25 November, while the PGP’s were feasting out in the Firth, the team headed for the first area of *Sarcocornia* and a cannon-net was put in position on a mown strip and cunningly camouflaged. We hadn’t quite finished when, four-and-a-half hours ahead of high tide, a small dark cloud of birds came swooping towards us from their feeding grounds, almost came to a halt in mid-air when they saw us, then swooped back towards the shoreline.

After hastily finishing our tidying up we fled from the area and watched nervously to see what the Kuriri would do. Before long they returned and, to our great relief, landed on the mud between the two areas of *Sarcocornia*. After a bit of pottering around they drifted towards the second area and a few actually went into the planned catching area for a second net. The birds didn’t seem bothered by the net on the other side and one even briefly wandered over there as well. Whew!

The next day the team headed for that second area and laid another net, also cunningly camouflaged, then retreated early in order to avoid another confrontation. Most went to the Centre. Adrian, Gillian and Chelsea headed for the Wrybill Hide to connect up a new water tank for our land restoration project. Amanda returned to shoreguide duty at the Godwit Hide. I took my scope to the observation point at the old Limeworks.

As Amanda puts it, ‘Having noticed that our crack banding team were otherwise engaged, the PGP’s flew in at 2.30pm, exactly five hours before high tide. I texted Gillian to let her know, and headed over to the Limeworks. “Exciting”, she replied.’

By 2.42 Amanda and I were gazing open-mouthed at 32 PGP’s on the mud between the two nets. A few minutes later they began walking into the catching area of the second net. By 2:45pm there were 17 PGP’s in the catch area. Amanda texted Gillian to let her know. Amanda: ‘17 in catch area.’ Gillian: ‘Serious?’ Amanda: ‘Yes.’ Gillian: ‘Packing up. Will be over soon.’

Another call went to the Shorebird Centre where Keith Woodley likens the response to those World War Two movies when the fighter pilots are scrambled. ‘The PGP team had been at leisure, when the call came,’ he says. ‘The two students were in the Wrybill Room, perched over laptops; the others were reading or napping. I broadcast the call to action. The response was immediate and within an impressively short time the place was empty, and a line of vehicles was heading down to the Limeworks.’ Meanwhile Adrian, Gillian and Chelsea had abandoned the water tank and rushed to the Limeworks.

It was somewhat earlier than anyone had expected but then, as Adrian comments, ‘That’s cannon-netting. Sometimes the birds will just sit out on the mud forever and a day. And other times they go where you want them. This time they just walked straight into the catching area. It’s always a worry that the net may not be camouflaged well enough and they’ll see it and stay away. But clearly they weren’t bothered by the net at all.’

Just minutes after the call went out Chelsea, who had to fire the cannons, was crawling with catlike stealth through the mangroves to the spot where the firing box was concealed. The birds evidently sensed something happening, because they looked



CATCH: (from left) A perfectly camouflaged cannon-net; videographer Johan Kok is in the right spot to record the first Kuriri being taken from the net. Photos / Johan Kok, Jim Eagles

over, but stayed where they were. Chelsea connected the circuit, a bang echoed across the bay, birds scattered and birders laden with catching boxes sprinted over to extract the PGPs before they could come to harm under the net.

‘Unfortunately,’ Adrian recalls sadly, ‘one of the cannon only partly fired and the projectile didn’t come out, and that was in the area where most of the birds were. This is the first time in all my years of cannon-netting this has happened. As a result we only got three birds instead of the seven we wanted and 20 or so that were in the catching area.’ Still, three Kuriri was as many birds as we had caught after weeks of trying last season, so it was still a good result. The birds were quickly removed from the net, checked to ensure they had no injuries, and popped into boxes for the short drive to the centre.

There a few more hiccups occurred. Some of the banding gear hadn’t been put out and there were problems finding it. Dave and Mike realised that while they had put tags on scores of PGPs over the years, they had always done that with Wally, never with just the two of them, and there were a couple of things they weren’t sure of. So they had to ring Wally in hospital to check.

But, happily, it all worked out. The three Kuriri were fitted with satellite tags. They also received names, this time not after people but – at Dave’s suggestion – the colours of their bands: Whero (red), Tea (white) and Kikorangi (blue). Then they were safely released. Since then all three have been seen flying, feeding and roosting. More recently their tags reported in on schedule, showing a predictable pattern of movement, mostly round mudflats, paddocks and shellbanks at Pūkorokoro, with the odd foray down to the Piako River.

Adrian, being a perfectionist, continues to worry about those hiccups. He took the miss-firing cannon to pieces and ‘there was some wet powder in there so presumably there wasn’t enough dry stuff for it to ignite and fire out properly. Obviously we weren’t careful enough. We should have double and triple-checked those sorts of things and we will do so next time. Particularly with something like this, which is not just random cannon-netting but a special project, you need to ensure everything is just right. It’s not very professional when you have these hiccups and I’m the person in charge so I have to take responsibility for that.’


After that we took a break from catching, not least because Adrian was heading overseas, but we pencilled in another

attempt around 26-27 January. After much discussion it was decided to cannon-net if the PGPs continued to hang around in their new favourite place, the Sarcocornia on the shellbank, or to mist-net either on the reserve or up at Kidd’s on the Manukau Harbour, depending on what the birds were doing.

In the end the decision didn’t come down to the birds. Catalina had picked up the four remaining tags and taken them to Lotek’s base at Havelock North for a check-up. She planned to bring them back herself but when that wasn’t possible sent them by courier. The courier picked them up on Thursday with Lotek paying extra for what they thought was overnight delivery. But on Friday there was no sign of the consignment. A check on the track and trace section of the company’s website showed the package had not been scanned. Lotek contacted them and was assured someone would check up and call back. We heard nothing.

On Saturday the website still showed the package as not yet scanned. A parcel did arrive at the Centre but it had stuff for the shop. Increasingly anxious calls by us and Lotek – offering to pick the parcel up if we could be told where it was – failed to find anyone who knew anything about our package or was interested in finding out. The rote answer was it was Auckland Anniversary Day on Monday and it wouldn’t be possible to do anything until Tuesday. Eventually we called off the catching. The Kuriri, whose mole is obviously still active, clearly knew this because they promptly congregated around the Sarcocornia on the shellbank. I’m pretty sure I saw a couple making derisive gestures.

The weekend wasn’t a complete bust because on Saturday night Tony led a small team to Kidd’s to set a few mist-nets, try broadcasting PGP calls through a boom-box and see what happened. We thought we heard a couple of calls in reply but didn’t see any Kuriri. However, we did catch and band 26 Red Knots, including one with a very worn Chinese band, four Bar-tailed Godwits, one Wrybill and one Black-billed Gull. By the time the gear was packed up it was 4am, we had enjoyed a marvellous time, and I had at least temporarily lost my desire to strangle someone at the courier company.

The package of tags turned up on Tuesday. The next suitable catching time is at the end of February so we’ll aim to try again then. Chelsea will be overseas by then so before she goes she’ll have to try teach JoJo and me how to activate and charge them. Adrian will be overseas too. Anything could happen. 



Report From the Chair

PMNT faces financial challenges and reluctantly mothballs the educator role

William Perry reports on the highs and lows of being an independent volunteer organisation largely reliant on grants and donations.

Kia ora koutou katoa.

At Pūkoro Mirānda Naturalists' Trust and at the Shorebird Centre we take some pride in our independence. We remain separate and independent from the Department of Conservation or any other part of the New Zealand Government. We are not part of any local District Council (Hauraki) or Regional Council (Waikato) or the Royal Forest and Bird Protection Society or even of Birds New Zealand. Not that there is anything wrong with any of these organisations. We enjoy cordial and cooperative relationships with them all and we hope and expect to do so in future, just as we do with Yalu Jiang Nature Reserve in China, the Nature Conservation Union of Korea in the Democratic Peoples' Republic of Korea and the East Asian Australasian Flyway Partnership. But we continue to value our separateness.

The New Zealand Department of Conservation (DOC) is important to us because through the Tiaki Repo ki Pūkoro Mirānda Trust we now share ownership (with them, and through them the New Zealand Government) of some of the land that is the chenier plain at Pūkoro Mirānda. We have also been fortunate to receive some funding from Living Water, which is a limited-term cooperative venture between DOC and Fonterra (New Zealand's largest dairy company). Forest & Bird shares environmental interests with PMNT but they have a broader focus whereas we have specialised in migratory shorebirds.

Our income at PMNT is largely derived from membership subscriptions, accommodation, shop sales, grants and donations. The world of grant applications is something of a specialist field and we are fortunate to enjoy the services of a volunteer who is a specialist in this activity. Alister Harlow continues to submit outstanding applications for grants to funding bodies and he seems to know how to approach each of them for the best chance of a positive outcome. Unfortunately, some applications are unsuccessful, largely because there is such competition for funding. We currently



JOY OF LEARNING: Educator Alex Eagles-Tully has a young student gazing in wonder as she talks shows the life of the coastal strip.

find ourselves in the position that our expenditure is outstripping our income. At the Annual General Meeting on 10 May, our Treasurer, Kevin Vaughan will present an audited Annual Report that shows a deficit of around \$84,000 in the Financial Year ending 31 December 2019

This deficit should not suggest that we have been careless in our spending. On the contrary, we have spent the Trust's funds on worthy projects that are important contributions, particularly to the conservation of migratory shorebirds. But we have spent more than we could afford and so we now have to cut back.

In one of our most painful decisions we have had to suspend the role of Educator. Alex Eagles-Tully has been doing some fantastic work in schools, inspiring young people to become interested in nature conservation and particularly

in migratory shorebirds. We missed out on the funding for this role last year, but we decided to go ahead with it in the hope that a targeted funding application would be successful. This funding application was not successful and so the position has been mothballed. Temporarily, we hope.

With the November issue of *Pūkoro Mirānda News*, I enclosed a letter encouraging members to include donations with their membership subscription renewals. This has prompted many donations and we are now well on the way to funding a new Manager's Roost. We have also received a boost to the funding of general projects. Many thanks to all who renewed their membership and a special big thank you to the many who offered additional donations. Happy birding. Ngā mihi.

William Perry

Clive Minton: founding father of wader studies

Clive Dudley Thomas Minton, the British birder and metallurgist who moved to Australia in 1978 and became the founding father of wader studies in Australasia and the East Asian-Australasian Flyway, died as a result of a car accident on 6 November 2019 aged 85. Two key figures in New Zealand wader studies, **Dick Veitch** and **Adrian Riegen**, pay tribute to his influence.

Clive Minton. The instigator of so much wader banding around the world. So many places visited, so many people influenced. He found pleasure every step of the way. The catching, the banding, the data. He knew every bit of equipment and had it stored at his house. Not polished and gleaming but always in working condition. He planned a catch to make use of any little advantage. Not doing everything himself but sharing and delegating and at full speed to get the net set. Then waiting and watching.

Birds in the hand were surely his greatest pleasure. Banded, weighed, measured, always in the quest for knowledge. In the early years it was a push to catch and band as many as possible as knowledge was really gained by catching that bird again anywhere and any time. As time went by new methods evolved and Clive took them up – coloured bands, coloured flags, lettered flags, radio tags – always that quest for knowledge. Then the pursuit was to fill the gaps in the data – maybe a time of year; getting more young birds; seek out a particular species; catching at a different place. Then, when the data were sufficient, there was writing to be done but I have little record of that.

This is the man who started us on our wader banding in New Zealand. Bryony and I went to Melbourne to join Clive for a long weekend of cannon netting. Four very long days. I have no count of how many birds or how many net sets, but do recall that we did set, fire and catch four times one day. We also enjoyed the hospitality of Clive and Pat for the start and end of that weekend. Then we brought cannon netting to New Zealand – without the success I hoped for. When Adrian took up the catching challenge we had coloured leg flags and a much greater return for our efforts. We also see Aussie flagged birds – maybe not from Clive, but somebody he inspired.

This is the man who was among those early rocket and cannon netters in the UK.

This is the man who did so much for the wader studies in North-West Australia. I joined him for a few of those and the one I remember best started at



CLIVE MINTON: Photo / Kim Wormald

his house in Melbourne. Three of us were to drive his Toyota Landcruiser to Broome. We loaded it the evening before ready for a pre-dawn start. This was early days in the work at Broome so there was little equipment already there. Clive had thought of every item that might be needed. The full-length roof-rack was full, very full, as was every nook and cranny inside – but still space for the Esky of food to be within Clive’s arms-reach. We headed out in the pre-dawn dark with the dipped headlights shining about half way up the walls of the houses. Finding the route out of town towards Adelaide proved challenging with those lights and

a little fog but we got there and those first few hours were quite pleasant. In Adelaide we picked up our third person who then decided not to take a turn driving but we still did two-hour swaps. That was when I found how many nooks and crannies Clive had filled – there was no toe room under the front seat – try that for two hour stints of mini-torture. Clive did share the food in the Esky – at approximately hourly intervals! So began many memorable trips to the Northwest. Clive pushing but sharing. ‘Everybody who is not doing anything should be doing something.’

This is the man who first came to mind when Allan Baker, a New Zealand ornithologist working at the Royal Ontario Museum, and Larry Niles, then scientist for New Jersey Fish and Wildlife, recognised a serious problem with the shorebird populations using Delaware Bay as a migratory stopover. Catching and marking some of the birds was the way to gain knowledge so they called Clive in. The next year Clive called me in and so began a long-term project to identify the problems and get the bird populations to recover. Every day Clive and Larry would do a recce, decide on the catch location and we would catch. Clive’s understanding of the birds was a key to the success. Larry’s understanding of the politics was the other key.

Everywhere he went the birds have benefited. Everywhere he went the people have benefited. **Dick Veitch**



READY TO FIRE: Dick Veitch and Clive Minton at Delaware Bay. Photo / Bill Barlow

A man who inspired countless people to become passionate about waders

I'm writing this in the transit lounge at Beijing Airport at 4am on the day of the memorial service for Clive Minton to be held in Melbourne. If I wasn't en route to England I'd be attending it. As Dick has written, Clive was a founding father of wader studies and inspired many people all around the globe – including me – to study waders with the same passion he had for them.

I first encountered Clive in early 1970 when he was running the Wash Wader Ringing Group based on the Norfolk coast of England and I had joined the group for a weekend of wader banding. We didn't do too well from memory but I did become captivated by migrating waders and that has stayed with me for the past 50 years.

Since 1981, wader expeditions to North West Australia have taken place almost annually and Clive has been in charge of most if not all of them. I joined the 1990 and 1992 expeditions and was pestered by Clive for some years to participate more frequently, but my attention had turned more towards New Zealand waders and the Asian part of the Flyway, where New Zealand waders were being found, plus I had a young family who expected my attention and mostly got it.

Early in 2019 Clive asked me to join the February 2020 expedition as it was to be his last and so I agreed for old time's sake. Alas, with Clive's sudden death we will not be working together exactly 50 years on from my first wader banding with him. I shall still attend, although it will be very strange not to hear Clive's voice bellowing 'Everyone should be doing something' or explaining the finer details of a moulting Long-toed Stint to students gathered round a lamp during a night netting session.

There are so many stories about Clive, unsurprising for a larger than life figure such as he but it is worth sharing a couple of them. In the 1990s I joined Clive in Victoria for a few days of cannon netting waders. My flight



CHECKING: Adrian Riegen and Clive Minton checking the firing box before catching Far Eastern Curlews in Darwin. Photo / David Melville

was delayed for two hours and, as all wader people know, time and tide waits for no man (not even Clive) and as my plane sat on the ground in Auckland whilst a fault was fixed I imagined Clive getting increasingly impatient at Melbourne airport.

I finally arrived at Melbourne airport and hurried out as quickly as I could to find Clive with this 4x4 and fully loaded trailer parked on the pavement right outside the main door, oblivious to the parking warden's attempts to move him on. I jumped in and before I'd closed the door and said hello we were already moving at a fair lick to make up for lost time.

Several days later we entered the Victorian explosives bunker compound, where all explosives for Victoria are stored, which is close to the shore and its own wharf. Surrounded by tons of all kind of explosives and a very tight security system I asked Clive how on earth did you get permission to cannon net waders here. He said with a big smile and twinkle in his eye 'Always ask in such a way that the only answer can be yes'.

Clive was a master at this and very good at making people like the security guard feel that without their wonderful help the whole weekend would have been a complete disaster. Incidentally on that occasion we were trying to catch PGPs, which roosted on the rocky shore, and they proved equally as challenging to catch there

as at Pūkoro Mirando.

Clive's determination any time, anywhere to catch waders extended to cannon-netting at night on 80 Mile Beach in 1992 using early versions of night vision equipment, which Humphrey Sitters had brought along to study waders feeding at night. The idea was it would be cooler for birds and people to catch at night and so less stressful.

I was moving birds along the shoreline from one direction Pavel Tomkovich from the other. Over the radio Clive assured me it was going well and birds were in the catching area and as they couldn't see me on the monitor I must be well out of danger. In reality I think they were looking at a different net in the monitor because when they fired it was a net just metres in front of me. We did catch a couple of hundred birds and the conditions were pleasant but I don't think cannon-netting has ever been tried again at night.

In October 1996 Clive visited New Zealand for a few days of wader banding which included our best ever catch of Turnstones and many knots and godwits one of which was retrapped recently.

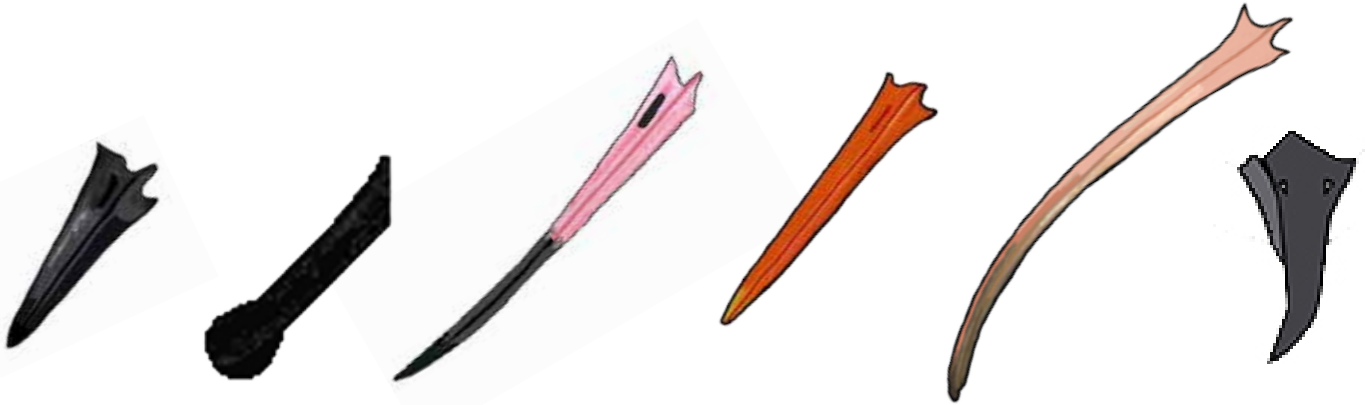
Over his many years of birding Clive inspired hundreds of people to become passionate about waders. It will be a much quieter world without him, but his name and legacy will live on, as will the countless stories.

Adrian Riegen

GODWIT TIMES

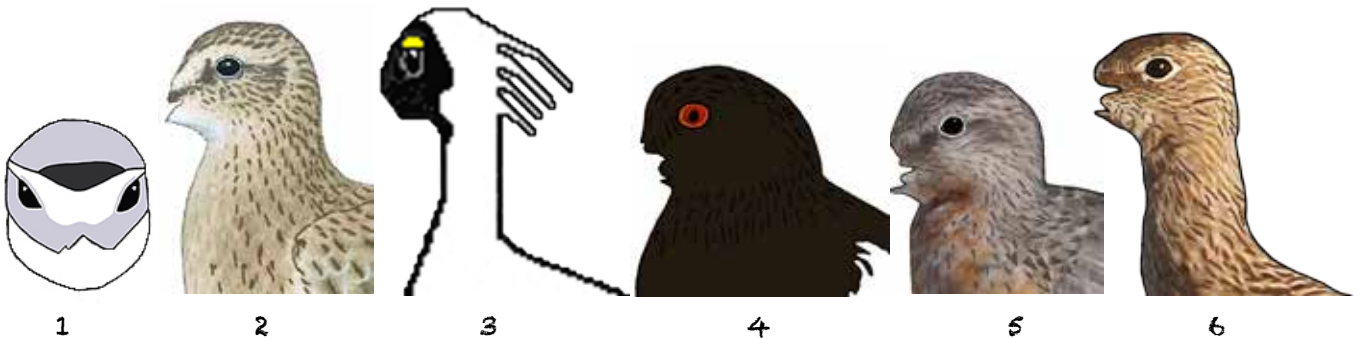
Whose beak is it?

Hello my non-feathered friend. You may have noticed that the bills of birds come in all sizes and shapes. But did you know that the different length and shape of a beak can help you to identify which bird you are looking at and tell you what kind of food the bird eats. Can you work out which bill belongs to which beakless bird below?



If you need any help, you can find pictures of these birds on the information panels at the Shorebird Centre or the identification panels in the Findlay Reserve bird hides to help you match the birds with their bills.

Mate wa
Godfrey Godwit



1 The Wrybill/Ngutuparore uses its sideways bending bill to scrape under river stones and find insect larvae to eat.

2 Like other Bar-tailed Godwit/Kuaka, I use my fairly long slightly upturned bill to find my favourite food marine worms, which live around 10cm deep in the mud.

3 The Royal Spoonbill/Kotuku-ngutupapa sifts plankton, crustaceans and small fish swimming in the water with their large bill.

4 Oystercatcher/Torea bills are like long, strong tweezers, perfect for digging deep into the sand to reach and crack open shellfish like cockles.

5 The bill of the Red Knot/Huahou is used to find shellfish such as tuatua and pipi which are swallowed whole and ground up (shell and all) in the bird's gizzard.

6 Far Eastern Curlew are uncommon visitors to New Zealand (there are three at Pukorokoro Miranda at the moment!) but they are easily recognisable by their large downwards curving bill, which they use for sticking down crab holes to grab their favourite food.

Pūkoro-roko Miranda Naturalists' Trust



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Magazine

Pūkoro-roko Miranda Naturalists' Trust publishes Pūkoro-roko Miranda News four times a year to keep members in touch and provide news of events at the Shorebird Centre, the Hauraki Gulf and the East Asian-Australasian Flyway. No material may be reproduced without permission.

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See the birds

Situated on the Firth of Thames between Kaiāua and the Miranda Hot Pools, the Pūkoro-roko Miranda Shorebird Centre provides a base for birders right where the birds are. The best time to see the birds is two to three hours either side of high tide, especially around new and full moons. The Miranda high tide is 30 minutes before the Auckland (Waitemata) tide. Drop in to investigate, or come and stay a night or two.

Budget accommodation

The Shorebird Centre has bunkrooms for hire and two self-contained units: Bunks cost \$20 per night for members and \$35 for non-members. Self-contained units are \$90 for members and \$130 for non-members. For further information contact the Shorebird Centre.

Become a member

Membership of the Trust costs \$50 a year for individuals, \$60 for families and \$75 for those living overseas (or \$50 if you opt for a digital version of the magazine). Life memberships are \$2500 for those under 65 and \$1000 for those 65 and over.

As well as supporting the work of the Trust, members get four issues of PMNT News a year, discounts on accommodation, invitations to events and the opportunity to join in decisionmaking through the annual meeting. You can join at the Centre or by going to our webpage (www.shorebirds.org.nz) and paying a subscription via Paypal, by direct credit or by posting a cheque.

Bequests

Remember the Pūkoro-roko Miranda Naturalists' Trust in your will and assist its vital work for migratory shorebirds. For further information contact the Shorebird Centre.

Become a Volunteer

There's always a need for volunteers to do a variety of jobs including helping with the shop, guiding school groups, meeting visitors at the hide, working in the Centre garden, joining in the restoration project at the Findlay Reserve, helping with the Shorebird Census and lots more. If you're interested have a chat with Keith or Chelsea at the Centre to see what will best suit you.

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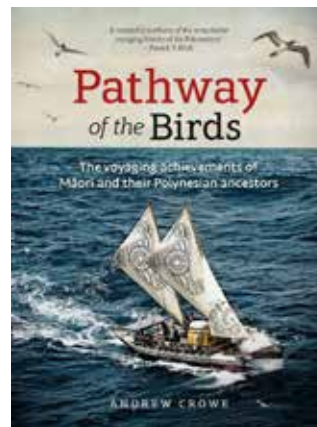
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The Prime Minister loved it and so will you

Prime Minister Jacinda Ardern was obviously thrilled when she was presented with a copy of Keith Woodley's beautiful book, *Godwits: long-haul champions*, which the Trust reprinted. She couldn't stop flicking through the pages, admiring the pictures and asking questions. And Conservation Minister Eugenie Sage already had a copy.

If you don't already own this classic work then - as the PM would surely tell you - you're missing out on something special.

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The Shorebird Centre is always worth a visit to see the birds, enjoy the displays and chat with Keith or Chelsea. But if you can't find the time to call in just go to our online shop at <https://shop.miranda-shorebird.org.nz/> or ring 09 232 2781 and ask.