

Jim Eagles: Obituary



ALWAYS INVOLVED: Jim Eagles

The Pūkorokoro family has lost one of its treasures with the death of Jim Eagles in mid-December following a short illness.

He became editor of Pūkorokoro Miranda News in August 2012. He and Chris had been PMNT members for a few years prior to that. Two years earlier we had actively sought him out for the role. I felt like a head-hunter. Or as Jim described it: '[I] had been subtly cultivated by Keith into expressing interest in editing the magazine once [I] retired', and while he was amenable, he was still enjoying his position of Travel Editor at the New Zealand Herald. It would be nearly two years before he finally left the paper and took up the role with us, but the wait was well worth it. Indeed, we underestimated just what he could achieve, the quality and class he would bring to the magazine.

Successive editors had built up PM News, each bringing their own strengths to improve it. But all his predecessors would be unanimous that Jim took it to a whole different level. As front of house at the Shorebird Centre, I get to hear most feedback. And as the years passed, praise for the magazine became a constant.

Another constant was his polite but persistent chivvying for me to deliver the magazine items I had promised. The two of us would bounce story ideas off each other, the bulk of them coming from Jim. Surprisingly often I found I had agreed to do quite a few of them. Then would come the task of proofreading the next issue. It was something I always looked forward to, always curious as to where Jim had taken the themes and stories he had talked



about. For that was one of the major qualities, a core part of being an editor, that he brought so proficiently to the job. Coming up with ideas for cover stories and other features. Commissioning them from those best suited to contribute. Or just as often doing much of it himself. Extensive research on a chosen subject, content, headings and subheadings, choice of images - all revealed evidence of nearly 60 years as a newspaperman.

His curiosity and sense for a good story led him to Pacific Golden Plovers. The fourth most numerous Arctic breeding species occurring in New Zealand, we knew next to nothing about them. Except they seemed to be declining. He drove the project, motivating us all to get it going. He wasn't to know just how problematic and elusive these enigmatic birds would be. Through multiple trials and abortive capture attempts, or a small catch followed by equipment failure, and the ordeal of negotiating the DOC permit process. In fairness, catching and marking protected wildlife needs to be carefully and rigorously managed. But even senior DOC managers acknowledge the permitting system was overly protracted. Though endlessly frustrated, Jim persisted, and we had many phone conversations where gnashed teeth were audible at the other end.

Despite all the hurdles we did get to deploy six trackers, from which the northbound tracks of three birds were recorded. This was a modest outcome for all the effort, not to mention our expectations, but it was nevertheless an exponential growth in our knowledge.





PHOTOS / Ann Buckmaster

Of course, one of those three birds was called Jim, or Wee Jimmy, as the man himself would say.

I have a lifelong addiction to newspapers. So, Jim was immediately of great interest to me. We had many mediarelated conversations, traversing areas familiar to us both. But Jim, of course, offered the acute and well-informed view of the insider -- and not just on media. He brought a deep knowledge of current affairs and political developments. I am prone to seeing things all too clearly from up on my soap box: Jim, with some apposite anecdote or observation from his long experience of public affairs, would usually rein in my horizons to the world as it is. And along the way there were a few wines and a lot of laughs.

The cover story for his last issue of PM News meant he left on a high. The wonderful story of how the steady decline of the New Zealand dotterel population has been entirely turned around, largely due to community efforts supported by agencies. The dotterels remain conservation dependent, meaning efforts to protect them need to continue for the foreseeable future, but it is nevertheless a positive development when all too often the news about our shorebirds is gloomy. That last feature was a typically well researched and comprehensive overview, a fitting end to the career of a highly regarded, true professional.

Farewell Jim. Rest assured we are not ready to give up on PGPs yet. Our condolences to Chris, Alex, Victoria, and their families.

- Keith Woodley

Jim Eagles: all that exciting news to report

I hugely enjoyed my 50-plus years in journalism. I've always loved the business of meeting interesting people or digging out significant information and then writing about it in a way others could – hopefully – understand and appreciate. Since joining the NZ Herald as a cadet reporter I've owned and edited community newspapers, edited regional dailies and business newspapers, written about politics, economics and local government, covered fires, murders and terrorism, and at the end had the great pleasure of editing the Herald's Travel section, and I've loved all of it.

So when I reached an age when I had to think about retiring I wasn't concerned about leaving the Herald – which was no longer much like the paper I started my journalism career on half a century before – but I was worried about how I would cope without my daily buzz of excitement. Imagine my relief when I was asked if I'd like to become the editor of both the Miranda Naturalists' Trust News and Dawn Chorus when I retired. I didn't take much persuading. And editing those magazines has been an absolute joy.

Instead of all the unpleasantness, trivia and gossip that now seem to obsess the mainstream media, I've been able to report on serious environmental issues, fabulous people and fascinating birds. The stories I've been lucky enough to cover in the 16 issues of PM News that I've put out so far have been simply wonderful.

Early on there was John Dowding telling us about the campaign to protect our New Zealand Dotterel from the oil spilled by the wreck of the Rena. I was able to run a cover story celebrating the fact that a Shore Plover, extinct on the New Zealand mainland for 140 years, spent a summer at the stilt ponds. We spread the rather moving news that the magnificent E7 was living in retirement just down the coast at Maketu.

I've been able to report on events like a cannon netting exercise which caught three Sharp-tailed Sandpipers

and a Curlew Sandpiper as well as over a hundred of those delightful, trusting Wrybills; the fantastic Bioblitz where we found well in excess of our target thousand species; and the exciting campaign which saw the Bartailed Godwit crowned as New Zealand's Bird of the Year. Being editor allowed me to approach Ngāti Pāoa, find out at first hand why they wanted the historic name Pūkorokoro restored to the area, and to see it actually come to pass.

I was able to watch, fascinated, the genuine shock on the face of the Chinese Ambassador when, while standing on the foreshore beside the hides, he learned that habitat loss in his home region of Bohai Bay is the main threat facing our Red Knots. Subsequently I've also been able to report on the increasing efforts by the Chinese authorities to protect the migratory birds that we share, including creating new reserves and, most recently, the signing of a Memorandum of Agreement.

Above all I've marvelled at the global reach of this tiny voluntary organisation, based in an obscure rural corner of a little country at the bottom of the world, which regularly sits round a table with representatives of the most populous nation on earth, has gained entry to reclusive North Korea, hosts leading experts from Russia, the United States and Europe and produces research that is received with respect by authorities around the world.

On top of all that, I've actually learned enough about shorebirds to point some of them out to visitors and share their amazing stories, I've managed to band a Wrybill, note down a few flag letters and contribute in a small way to the great global research effort, I've seen some marvellous birds – even participated in a rare bird report on a Greenshank – and I've met lots of extraordinary, talented and dedicated people. I can't imagine a better way to spend my retirement.

Jim Eagles, Editor







GOOD NEWS: (from left) the bioblitz; E7's happy retirement; the Chinese Ambassador at the Shorebird Centre

Updated threat rankings for shorebirds



It's common for those involved in conservation to refer to threat rankings of bird species when doing submissions to councils, governments etc. In December 2021 the Department of Conservation released an update to the threat rankings of the birds of Aotearoa New Zealand. This publication updates both the ranking system used for threatened birds, and the status of species within that framework.

There are two key changes in the ranking system. The classification *At Risk – Recovering* has been split, there are now two recovering categories, the original At risk - recovering and the new *Threatened – Nationally Increasing*. The other key change is the addition of new qualifiers in particular the qualifier CI,

Climate Impact, has been added so that species likely to be impacted by climate change can be easily identified.

Five of the key shorebird species have had changes in their threat ranking.

Wrybill - the population increased by 33% between nationwide counts undertaken in 1983–1994 and 2005–2019, probably as a result of improved predator control and the restoration of braided riverbed habitat at some South Island breeding sites.

Banded Dotterel and Red Knot -National wader counts showed that the rates of decline of lesser knot and banded dotterel were slower than previously feared

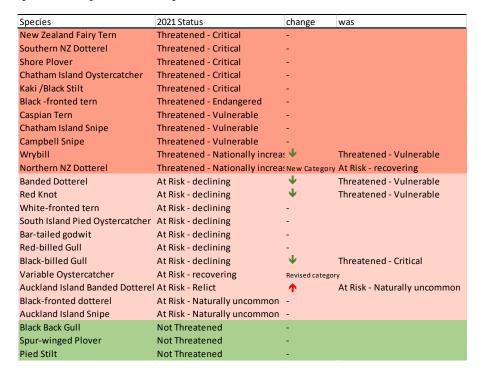
Black-billed Gull - The earlier estimate of the extent of the population decline was considered to be overstated. The committee thinks that the population could actually be stable.

Northern New Zealand Dotterel now in the new category Threatened -Nationally increasing,

Auckland Island Banded Dotterel has also changed status.

Of local interest the *Spotted Shag* has been shifted from Not Threatened to Threatened – Nationally Vulnerable, of no surprise to anyone working in the Auckland region.

For those interested, this 2021 assessment removes feral chicken from the New Zealand list of species that are assessed for a ranking as there are no indications of a self-sustaining population.



New shorebird species for NZ



Photo / Gillian Vaughan

A new species is expected to soon be officially added to the NZ list, with the appearance of a black tern off the Kapiti coast in late January. First seen at Waikanae and then at Plimmerton the bird will be the 19th species in the tern group (terns and noddies) seen in NZ.

Consultation with those overseas indicates it is a first year bird, of the European race. The normal non-breeding range of this species is down the west coast of Africa so it is a long way from home.



Source IUCN

And so the debate begins will we be adding a new seabird to the list, terns mostly feeding at sea - or a new shorebird, reflecting their taxonomic association with our shorebirds.

Obviously it's a shorebird.

Kaiaua breeding

Each year variable oystercatchers attempt to breed around the stream at the south end of Kaiaua village. In the May-21 issue of PMNews we reported that the pair successfully fledged chicks for what appeared to be the first time. One of the chicks was identifiable as an early injury



WATCHFUL: Variable oystercatchers with chick and New Zealand dotterels keep an eye on the stream mouth. Photo / Janie Vaughan

caused his tail to be held at an odd angle. This chick was last seen in August 2021 by Janie Vaughan, months after fledging but still occasionally begging from its parents.

When lockdown was over and the birds could be checked again last years chick was gone, probably because the parents were breeding again. This year chicks have hatched from two variable oystercatcher pairs, both probably breeding on the north side of the stream. Whether this year's chicks successfully fledge is still a question.

A pair of NZ dotterels were also holding a territory in the area, but no chicks were seen.

At the Centre

The new ovens for the Centre flats and the new steriliser for the main kitchen have arrived and have been installed. This will be great for courses and large events. Thanks to Ann Buckmaster for driving this forward, Anne Gummer for working on the funding application and the NZ Lottery Grants Board for the funding. The 2022 calendar has now sold out. If you have great photos you would be happy to share for the 2023 calender email admin@shorebirds.org.nz!

Only a small run of 2022 calenders were printed, so we could ensure they were all sold. We raised around \$1500 for the Trust from that.

2022 northward migration

A small group of Bar-tailed Godwits still have working transmitters, there are four still transmitting from Tikapa Moana - Firth of Thames. The birds have all been fairly quiet and staying put or perhaps just preparing themselves for another trip north in March. Will some of the young birds that went to Alaska last year try again this year or will they stay put until March 2023? Time will tell. We'll keep you up to date on Facebook, or you can check yourself on https://www.globalflywaynetwork.org/flyway/east-asian-australasian-flyway.

Right now there are also a small number

of godwits in Thailand with active transmitters, and you can see what's happening on other flyways - Whimbrel, Bar-tailed Godwits, Black tailed Godwits and more are all sharing their secrets.

Cancelling the Field Course

2022 will be the first year for 23 years where the Shorebird Centre has not been filled for a week with mud, laughter, insects, bird books, and learning. The annual residential field course was cancelled when the county moved to a red setting.

Part of the appeal of this event is its intimacy and informality. People of all ages are gathered in close confinement for a week of intensive activity. Normally this is part of its magic: this year it presented uncertainty and risk. Dates have already been set for next year.

Young eyes

Young gun birder Caiden from Hamilton had the eagle eyes (plover eyes?) to spot and photograph an Oriental Plover on the Stilt Ponds in early February. At the time this was written it hadn't been seen again, but it's out there somewhere.

Track maintenance

Work on the vehicle track was carried out over spring and was a great example of community in action. Shorebird Centre and catching regular Bob Rigter is photographed here with local Steve Crooyman's tractor, laying fill onto the lower sections of the track. Thanks to Bob and Steve we'll have an all weather track during the winter plaanting period.



Photo / Ray Buckmaster

Pacific Golden Plover

A small group of optimists attempted to end 2021 well and start 2022 off on the right foot with a Pacific Golden Plover catch. On New Years Eve the nets were set and then furled, the nets stayed closed for a few hours while the team got a few hours' sleep - but at 3am the alarms went off, and the team headed out to open the nets and catch in the window allowed by tide and dawn.

Dawn was beautiful. Once again no plovers were caught. Maybe next time.



DAWN 2022 comes over Thames Photo / Gillian Vaughan

Recent sightings at Pūkorokoro



Springing out of Lockdown

Keith Woodley looks at recent changes at the Centre and surrounds

If it was a long, tedious lockdown for Auckland, it was also quiet at the Centre. There came a thin trickle of visitors, mainly from eastern Waikato and Bay of Plenty, or occasionally from elsewhere in the country. But with the metropolis sequestered, it was like living in a dried-up creek bed. There was, however, nothing dry about the Stilt Ponds. For the entire period they remained full of water.

For months there were flocks of ducks, Canada Geese and swans. Especially swans. Then, towards the end of the year, water levels began to drop. Almost overnight the Stilt Hide — having languished without shorebirds to view, resumed its previous status as the place to be. Several thousand godwits, hundreds of knots, and oystercatchers, along with increasing numbers of returning Wrybill, were there each tide to excite the visitor.

What was particularly novel, however, was the backdrop to these flocks. For there, in the centre of the ponds, the 20 or so Rotal Spoonbills could be seen scything away. They had taken up roosting in the ponds in late December, but it was unusual to see them foraging there as well.

Banded Rail on Widgery Lake

Through November and December there were occasional sightings of a rail around Widgery Lake. These fleeting views tended to be few and far between. Then

in mid-January one began to show up regularly along the eastern edge. Several days later it was joined by another adult and two tiny chicks. For the chicks it was most likely their first outing. Quite a few visitors to the Centre in subsequent days were able to enjoy the sight.

Other sightings

Among other sightings over summer there was a Pectoral Sandpiper and Far Eastern Curlew, along with occasional records of a Whimbrel, Grey-tailed Tattler and a Black-tailed Godwit. The Curlew Sandpiper that remained here through the winter was also a regular in front of one of the hides. Then there were the Pacific Golden Plovers, maximum count so far 44. They would often be seen standing about in full view at the Limeworks. Also glaringly in view were their legs, entirely devoid of bling— as if taunting us.

The presence of a pig was a less welcome novelty. The small Captain Cooker was first seen late last year the other side or Pūkorokoro Stream. It then moved on to the Findlay Reserve, and eventually the edges of Widgery Lake. A pig hunter brought in to investigate found no evidence of damage to plantings on the reserve. By mid-February it had eluded at least three attempts by hunters to locate it.



PIG IN A POKE? We didn't mean to accept it. The Captain Cook on Widgery Lake PHOTO / Chelsea Ralls

Nau mai, Haere mai!



We are delighted to welcome Hera Clark to the shore guide role this summer.

Of Ngāti Pāoa descent, Hera lives in Kaiaua. In 2016 she was one of four people selected by Auckland Council for the Mana Whenua Kaitiaki cadets' program. There she trained as a park ranger working in Auckland southern regional parks. In 2017 she was appointed a Kauri Dieback advocate, based at Hunua Falls. This role involved engaging with visitors to the parks, explaining the background to Kauri dieback, and the need for precautions such as restrictions on public access to prevent spread of the disease.

In January 2021 PMNT offered Hera a sponsored position on our annual field course. This was her first immersion into the world of shorebirds and provided a sound background for her new role. There have been many visitors commenting on how engaging and informative they have found Hera at the bird hides this season. She has even had her first experience of a twitching event. The intensity of the keen birders who descended on Pūkorokoro following the report of an Oriental Plover was a revelation for her.

The Editor

We are in discussions with someone regarding taking on the editor role but there is no doubt that Jim has left big shoes to fill.

There are a lot of parts that go into creating the magazine. If you'd like to discuss being involved in some way please contact Keith at the Centre.

The Boy with Wings

On March 6 at our March open day celebrating migration the Shorebird Centre will be host to a puppet show - our first ever (covid permitting). The show toured in Christchurch schools (over 1400 children) in 2021 and had public shows at Little Andromeda Theatre, and Nelson Fringe Festival. So what's it all about?

Bridget and Roger Sanders of Birdlife Productions, are a partnership committed to creating theatre to inspire, delight and inform. Using puppetry, storytelling and live music, their stories take children on a journey into other worlds full of imagination and wonder, with liberal doses of humour! They believe in the power of wonderment to transform children's lives, inviting them to imagine, feel, think and dream.

In this high-tech, fast-paced digital world, they offer a counter to 'screen time', allowing space in 'real-time' to watch, listen and reflect, using a 'handcrafted' aesthetic that is sophisticated yet accessible; the magic lies in the apparent simplicity of their craft.

About the show

As autumn closes in, the kūaka (Bar tailed Godwits) take flight to their long migration from No to Alaska, striving to live out their life cycle to its fullest the success of this mission relies on gritty determination and their trust in some kind of 'inner mar'that guides them to their the northern bree groun assure them of cor watching +1 cke t the-eve .an, w .10 has on a journey find the 'Boy im to s' and t ure that will ot knowing which ot knowing which his c begins a dramatic (and then humorots) adventure as he edges closer

This pulpet show, designed for ages 5 to 10 years, ombines many layers of storytelling where present and past are woven together with the added layers of digital projection, handmade puppetry, original live songs and plenty of humour. The set, made from a series of different sized packing boxes, unfolds out into different worlds in a surprising and delightful way.

his treasure!

to finding

Join us on March 6 for your chance to see the story of birds and migration from a new perspective.

PHOTOS: Birdlife Productions except as indicated.

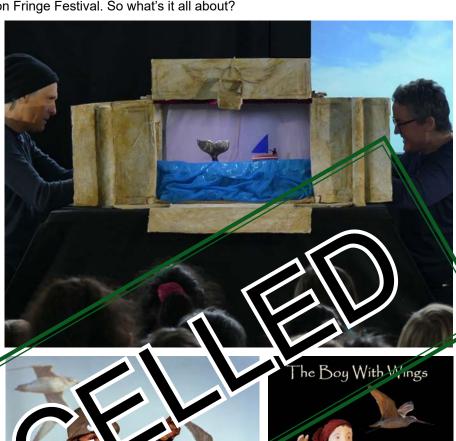
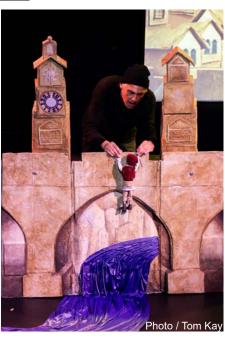


Photo / Michael Jear





Home to Roost

At 1.15 a.m. on a Wednesday in late November there came the sound of a large vehicle reversing. Traffic activity at all hours is not unexpected if one resides next to a dairy farm, but on this occasion, it was expected. I emerged to the sight of a house reversing into the space between cottage and Centre. As I watched it was skillfully maneuvered into position, so that it hovered exactly over the survey pegs. It was then lowered onto temporary supports. In all the procedure took barely 90 minutes, before truck and crew departed. Thus, the view from the cottage changed forever.

At daybreak the clamour of Sparrow, Starling and Myna seemed more intense than usual. Perhaps I imagined it. Or perhaps the birds were adjusting, with considerable excitement, to their new perch-scape. It had considerable novelty for me too. The height of the temporary piles was such that standing outside looking in through the front door, my eyes were exactly level with the floor.

I went away for the weekend. On my return I found gophers had been busy and there were numerous large holes underneath the house. Two days later a concrete truck arrived, and permanent piles were cemented in place. But how were they going to move the structure on to the piles? Presumably the original truck would return to raise it, and then install it in place. But no. A considerably smaller vehicle laden with long steel hoists appeared. Once in place under the house, the 12 hoists were connected by pressure hose, and so the building descended to its final position. I had seen it all unfold, yet it still seemed magical.

It had been several years since builder and Trust member Peter Fryer had pronounced the cottage unfit for purpose. He was right, although I was sluggish in accepting that he was. For over 20 years it had been a perfectly adequate home for me. Now thanks to the generous support











of Trust members, new accommodation was in place.

In early January, there began the first tentative steps towards moving in. It will come as no surprise to many who know me, that books were the first manifestation. Pending the transfer of substantial bookcases from the cottage, the kitchen benches and serving areas were soon piled high with stacks of assorted volumes. I suggested to some I had not quite worked out what a kitchen was for. Peter, on hand to assist with the bookcases, accused me of 'cooking the books.'

Meanwhile the cottage was being subjected to intensive archaeology. Moving bulky furniture that had sat in place for decades, revealed all manner of detritus and misplaced objects. Long-hidden walls emerged. The true state of parts of the cottage lay starkly revealed.

By the first week in February, we were still waiting for plumbing and power to be connected. Once all that is done, I shall take up residence. And adjust to my daily commute being shortened by 20 metres.

From Trust Council:

Ngā mihi nui to all of the people who donated to make this possible. In early February the last items will be connected and the house will be ready for occupancy. We are still to install decks and will then look at landscaping.

A NEW ROOST - Keith Woodley standing at the ramp built by Peter Fryer which will be in place until decks are built; The house at 6am on day one - stilts aren't just for shorebirds; the house being lowered onto foundations; Len Adendorff from Keith Hay Homes handing over the keys; A panoramic shot of the kitchen and living area - Note that the room is actually a square! Below - extending the septic system.

Photos / Keith Woodley, Chelsea Ralls



The trials of building a house in lockdown

David Lawrie took care of the hard yards around consents and logistics, and there isn't much that slows David down. But lockdown tested him.

An email from David to Council:

"The house is due to be delivered next week, but there is a problem, of course!!! The site is on the other side of the border from where the house is located!!

However we have negotiated that the house can be transported to the site, but the team placing the footings and piles is not able to cross the border. You figure out the logic in that.

It has been arranged that a team will travel up from Hamilton to build the foundations in time to position the house. Luckily before the border was introduced I had placed pegs to mark where the house needs to be placed and also established levels on the pegs to enable the floor to be set. So that was one problem solved.

But the next problem is that the footings need to be inspected by an engineer before the concrete is poured. The engineer is located on the wrong side of the border, so I have arranged for an engineer who lives in Whiritoa to undertake the work. So with lots of finger crossing the house should be settled on site by the end of next week. Just about as complicated as tracking Godwits!!!" and later -

"Actually I forgot the drainlayer. He lives on the Pūkorokoro Miranda side of the border but his digger and operator are on the wrong side. I am not sure how we will solve that problem but it is not a pressing worry yet. At least the power cables have been installed."



Join us in farewelling our migrant visitor, as the heading leach to the Arctic, 10.51am Fig. time Join using the heading leach to the Arctic, 10.51am Fig. time Join unite Productions, set against a background communication watchers and across 12.30pm lunch. 2 pm Gues speaker, to be announced.

Sunday 22 May AGM

Saturday and Sunday 25 and 26 June Planting weekend. Bring your enthusiasm!

Note that because of Covid events are subject to change - keep an eve on emails and the website.

Of interest

Lockdown Series – new watercolours by Keith Woodley. Miranda Gallery **27 February to 20 March see back page**



BLENDING IN: The beautiful colours of the red knot blend in to the tundra, as do the colours and patterns of its chick. Photo / Pavel Tomkovich

Red Knot studies in Southern Chukotka, Russia

Learning about Red Knots needs a slow and steady approach and an incredible level of persistence and determination. **Pavel Tomkovich** tells the story of some of the discoveries he has made about knots over the last nearly 20 years.

The Red Knot is a shorebird species with thecircumpolar breeding distribution and several morphologically distinguishable geographic populations (subspecies) that at least partly use distinct migration routes and non-breeding grounds. Two out of four Siberian Red Knot subspecies follow the East Asian - Australasian Flyway to spend the northern winter in Australia and New Zealand. Differences in the breeding plumages of birds of these two subspecies have indicated that they mix on the non-breeding grounds, but until recently almost nothing was known about the degree of their mixing, migration strategies, site fidelity and many other natural history traits of these birds, especially on their breeding

In 2009, I was invited to join the expedition to southern Chukotka in the northern Far East of Russia for monitoring of the local population of the Spoon-billed Sandpiper, which in itself was a tempting suggestion. However, additionally I was lured there by the knowledge that at least several pairs of Red Knots are also breeding there,

according to both a discovery by friends in 2003 and subsequent observation of ornithologists from the UK. Since that year my annual field seasons take place in that area, in the vicinity of the coastal Meinypil'gyno Settlement - inhabited mostly by fishermen. By the way, this area is the southernmost known breeding site of the Red Knot in the world; it is at the 62.5° latitude.

The tundra vicinity of Meinypil'gyno is quite scenic and it is distinguished by a large variety of landscape features, which provides a significant diversity of birds living there. These are mountains of the Koryak Highlands at some distance, large areas of moraine hills, large lakes fed by several small rivers, and the coastal plain composed of ancient sand and pebble low ridges washed ashore by the Bering Sea. Part of this coastal plain is inhabited by Red Knots.

The Red Knot is not an easy species to study on the breeding grounds because birds are both rather secretive and have low density. They are the most noticeable at the very beginning of the breeding season, when males perform display flights and pairs are scattered across snow free patches of tundra, and in midsummer when parents are warning their broods at approach of humans and other potential terrestrial predators. Finding of knot nests is especially challenging because an incubating bird spreads out and freezes in its nest and often can be flushed from the nest only a few metres from it. That is why it was only in my third field season that we managed to find our first nest of knots. How then to study them?

The answer is rather traditional: We need to recognize birds individually with help of colour marking. From the



LOCATION: Meinypil'gyno Settlement, above: satellite landscape view, right.- Google Maps



PARENTING: This brooding adult knot is almost certainly a male, as the females usually leave before the chicks are grown so they can get ready for migration Photo / Pavel Tomkovich

very first year we used every possible occasion to catch both adults and chicks to fit bands and flags on their legs. Adrian Riegen was very helpful supplying us with white Engraved Leg Flags (ELFs) which we were adding to light green flags or rings. Light green is a colour assigned to Chukotka shorebirds on the flyway. However, we learned soon that large flags are not comfortable for small chicks, which are fast runners, and therefore subsequently we were adding ELFs only to large chicks not long before their fledging.

Individual recognition of birds allowed us not only to get their records along the flyway, but also to recognize easily the males and females after the birds were sexed, to learn about return rate to the breeding or natal area, survival, their number in the local

population and other characteristics. For example, it is widely accepted that only Red Knot males take care of their chicks, while the females leave their families, start flocking then leave the breeding grounds together with failed breeders several weeks before successful males and fledged young knots. But we managed to discover that rare exceptions may exist, and occasionally females instead of males attend their broods.

We learnt that breeding males have rather constant home ranges between the years, while females show a larger diversity. Some females annually mate with the same males if the latter return, others often are pairing with different males, and we also know about several females whom we never observed after marking again in our study area in subsequent years, but who at the same

time were recorded at least a couple of years on the flyway. So, some females presumably are switching between different local populations.

Interestingly, it is becoming clear that as, through the years there are more individually recognizable knots in the local population, our understanding about the population size is changing with the estimated number of birds increasing. A decade ago we assumed that we were dealing with a small population of not more than a dozen breeding pairs, but a recent estimate increased this to 15-17 pairs; and the latest estimate in 2021 turned out to be 18-20 pairs. This is because some pairs we record only once in spring and sometimes birds with broods pop up at the end of a breeding season who were not seen earlier in the season. All these results once again

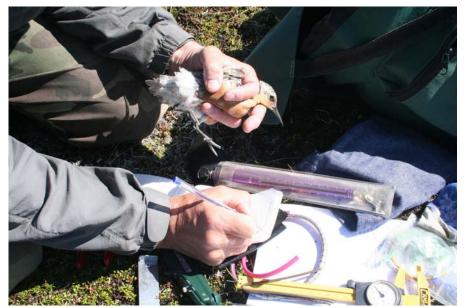


indicate how secretive knots are.

To learn about the geographic connectivity and the migration strategy of knots breeding in southern Chukotka we tagged several of them with geolocators. These devices record time and light intensity as well as contacts with salt water. After downloading this information it becomes possible to calculate approximate geographic position of the bird during its annual cycle. Unfortunately we retrieved only three geolocators with information, which allowed us to find out that the Bohai Bay in northeastern China is one of the key staging areas for our knots both on the southward and northward migrations. One of the birds spent the non-breeding season in the Gulf of Carpentaria, Northern Australia, and two others migrated to Kaipara Harbour in New Zealand. To the surprise of us and other researchers, on the northward migration the birds from New Zealand migrated nonstop during 7 and 8 days to the Bohai Bay, which is about 10,100 km, the longest recorded flight for shorebirds of their size.

At catching of adult knots we usually take drops of their blood for sexing and possible other genetic studies. Jesse Conklin with helpers have analysed DNA from all the global geographic populations of the Red Knot comparing the genetic diversity and evolution of the populations. Our blood samples from Chukotka were used, and some interesting results came out from this study. It was found that the two flyway knot subspecies demonstrate only a moderate genetic differentiation indicating relatedness. Another puzzling result without a current explanation: the local breeding population in southern Chukotka is not homogeneous one and is shared by two genetically distinguishable populations.

We never know in advance about a possibility to continue our collaboration, monitoring and studies of Red Knots and Spoon-billed Sandpipers in Chukotka, but I hope for such continuation to get more surprises about these species and to accumulate additional data sufficient for reliable conclusions. Nevertheless, even now we have some data that should be processed and published to increase our communal knowledge about these fascinating birds and their needs for their future wellbeing.



BANDING: Red knot being processed and banded Photo / Pavel Tomkovich



BLING: Knot showing leg flag while brooding chick Photo / Pavel Tomkovich



STUNNING: Knot and chick on tundra in the stunning landscape of the area. Photo / Pavel Tomkovich



E7 - the OG of satellite tagged godwits. E7 in the godwit flock. PHOTO / Jesse Conklin

Revisiting E7 - 15 years on

Bob Gill, a retired shorebird biologist with the USGS Alaska Science Center, recounts the decades-long effort to learn if godwits flew nonstop across the Pacific between Alaska and new Zealand. The story focuses around the unbelievable worldwide interest generated by a single bird known as E7.

February 6th marked the 15-year anniversary of, what for locals, was another routine capture effort of Bartailed Godwits (*Limosa lapponica baueri*) at the Pūkorokoro Miranda Shorebird Centre (PMSC) ponds. The subsequent processing and tagging of birds that night and the tracking of their movements over the ensuing seven months was anything but routine.

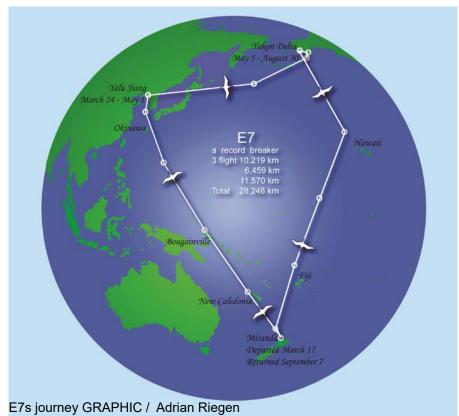
A week earlier I had flown from Alaska, along with Dan Mulcahy, the staff veterinarian at the U.S. Geological Survey Alaska Science Center, to join New Zealand and other American colleagues, first at Golden Bay and then at PMSC, where we planned to capture godwits and attach satellite transmitters to them. Our hope was that this technology would allow us to track birds throughout their annual migration, which previous color ringing had shown to include flights from New Zealand to the Yellow Sea, from there to Alaska to nest, and then a return by an unknown route to New Zealand in September. We were particularly keen to learn if godwits' southward migration was direct across the Pacific, a distance of 11 000 km, and if birds were capable of doing this in a single flight without stopping to rest or refuel. Several lines of circumstantial evidence garnered

over previous decades suggested that birds were doing both, but the enormous extent of the Pacific basin prohibited us, both logistically and financially, from using conventional assessment methods to confirm this. Thus, with guarded optimism we turned to newly emerging satellite telemetry for answers, realizing full on that what we were doing was in many ways pioneering and not at all assured of success.

But before we could apply the satellite transmitters we had to get birds in hand. As my notes indicate, failure of that step, at least, was unlikely, given that we had assembled the "A-Team of local godwit capturing" (Phil Battley, Tony Habraken, Adrian Riegen, Gillian Vaughan, and Keith Woodley). And despite a breezy, drizzly evening we of course captured birds. The godwits were brought to the headquarters where the library had been turned into a surgical theater for veterinarians Dan Mulcahy and Brett Gartrell. From the captured birds we selected the largest adult females for the implant procedures, among them a bird given an engraved leg flag coded 'E7.' Our hopes for success were buoyed the next day when 7 of the 8 birds fitted with transmitters were resighted on the nearby mudflats, all looking none the worse for wear. Even more promising was the text we received from Lee Tibbitts, my USGS colleague in Anchorage, who reported that satellites had picked up signals from all 8 birds. Among the first birds to depart on its northward migration was E7, who left the Firth of Thames on March 17th. She would eventually be tracked to Alaska and then back in September to the Firth of Thames via an 8.5-daylong nonstop flight across the Pacific covering a distance of about 11,800 km. Decades of speculation had finally been confirmed. E7 eventually stopped migrating and settled into 'retirement' at Maketu in the Bay of Plenty, where she resided until last seen there in September



Nils Warnock and Bob Gill in 2007. PHOTO / Keith Woodley.







E7 held by Bob Gill at the Shorebird Centre, and Bob Gill recreating that shot on the shores of Yalu Jiang. Photos Keith Woodley / Lee Tibbits

2014. Because she likely did not make her first migration until two or three years old, she probably lived into her second decade (see the February 2014 issue of the PMNT journal).

E7's feat has now been replicated by several other godwits instrumented more recently in New Zealand by Phil Battley, Jesse Conklin, David Melville, Adrian Riegen and others using even more advanced tracking technology, with units now weighing <5 g compared to the 26-g transmitter E7 carried. During the most recent tracking effort, I followed the posts and almost real-time blogs of the daily progress made by these NZtagged godwits. I assume many of you did as well, but what you may not have experienced unless you were intimately involved in the original 2006 effort or in similar tracking studies of long-distance migrants, was the often and not so subtle angst experienced as birds unexpectedly altered course, encountered broad bands of headwinds, or otherwise did the unexpected. Tracking this year's cohort was a bitter sweet experience for me that brought back many memories, not the least of which was having the fortune to be involved with a truly remarkable international team of colleagues. The pioneering research of this team has clearly affirmed the importance and effectiveness of coordinated international efforts to conserve migratory birds and their habitats.

The attention the initial group of tagged godwits received, in particular E7, is to this day a story in itself and an extraordinary one from just about any perspective. Two side stories stand out in particular. First, any event reported from the natural world is filtered through human senses. Thus, it is understandable why there would be so much interest in an animal that conducted strenuous exercise for 8–10 straight days while either foregoing or drastically altering

their basic biological functions of eating, drinking, and sleeping. Even as we move to address the how and why aspects of these extreme flights, I still find myself asking, "Can this really be?". But judging by the interest shown in E7's flight, this same question captivated the public even more so, and if Google is a collective measure of such interest, then the over 71,000 results presented under "Godwit E7" attest to this. Included among the Google search results are hundreds of newspaper articles, many in foreign language outlets; links to numerous feature stories in newsletters and serially published outlets of conservation organizations; a half-dozen children's books; a musical score; a theological sermon ("Who put the God in Godwit"); a clue in the New York Times crossword puzzle; numerous TV, podcast, and video productions; textbook chapters, including one on 'proportional reasoning' used in an MIT engineering class (comparing the flight ranges of a jumbo jet and E7); papers within the scientific literature, including one detailing the flight of E7 and other godwits that has now been cited in over 500 other scientific papers; and probably most importantly the widespread integration of E7's story into school curricula. Ah, but then there are the entrepreneurial aspects of E7's flight, which have been depicted on or crafted into items ranging from clothing (wraps, hats, totes, t-shirts), jewellery, toys, games, models, puzzles, mugs, and my favorite, logo golf balls featuring a godwit flying between Alaska and New Zealand, presumably signifying the great distance one would get when using this brand of golf ball.

A second side story to emerge from the satellite tracking work concerns the scientific process itself and a reminder that 'discoveries' per se, as E7's eyeopening migration has been touted in the media, are rare in science. Invariably, new findings instead spring from previous ideas in an iterative process that constantly refines and builds upon itself. E7's story is no exception and should more rightly be viewed as a confirmation of what several previous generations of ornithologists pondered: do godwits migrate south directly across the Pacific, and do they do this nonstop? Formulations of these questions initially stemmed from lots of good old fashioned natural history inquiries, including recoveries and resightings from ringing studies, observations of seasonal occurrence, and examination of museum

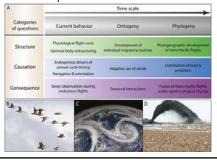
specimens. One anecdote pointing to this involved an email I sent to Adrian Riegen in 1996 shortly after returning from an Alaska field site in October at which I observed a departure of a large number of godwits. Speculating at the time that the flight to New Zealand would take about 10 days, I said to Adrian, "If I've got this right you should be seeing arrivals Monday week," to which he took great pleasure in replying a week later that I was wrong – they arrived on Sunday!

Seemingly serendipitous observations such as this, which suggested that speculation about nonstop flight might not be so outrageous, spurred us to look at godwit migration through the lens of other scientific disciplines: including anthropology, physical oceanography, zoogeography, animal physiology, avian aerodynamics and flight simulation modeling, and meteorology. What emerged was a consensus that godwits could, indeed, fly nonstop between Alaska and New Zealand. An advancement in satellite tracking technology and hardware by Microwave Technology, Inc. was the final scientific building block that allowed us to confirm, finally, the godwits' spectacular feat. Anyone curious to learn more details should consult Keith Woodley's book Godwits: Longhaul Champions in which he presents a comprehensive chronology of the entire background story.

The work continues

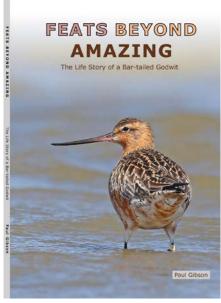
Theunis Piersma, Bob Gill, and Jessie Conklin are all known to Shorebird Centre regulars - all giving talks at open days. They, in collaboration with others have released a paper which builds on Bob's thesis here - now that we know what we know -what are the next questions?

"The Pacific as the world's greatest theater of bird migration: Extreme flights spark questions about physiological capabilities, behavior, and the evolution of migratory pathways" has been published in *Ornithology*, in Feb 2022. The link is too long to include here, but if you Google it and read the paper you will find there are so many stories still to come.



Book Review

Feats Beyond Amazing: The Life Story of a Bar-tailed Godwit. By Paul Gibson. 64 pp \$34.90



Shorebird banding and flagging programs are a goldmine of riveting stories. Tracking individually marked birds on their epic migrations reveal fascinating feats of navigation and endurance. An early record for this country was of a godwit banded on the Pribilof Islands of Alaska in 1967 then recovered a few months later in Tauranga Harbour, the first confirmed link between the two countries. A godwit banded YWRW by Phil Battley at Pūkorokoro in March 2004, was seen in April at Yalu Jiang in China, and then again in August at a remote coastal site in Alaska. On 8 October Phil recorded the bird back at Pūkorokoro. This record confirmed the basic migration track of our godwits, but of course it was not until E7 three years later that the nonstop nature of these flights was confirmed.

More recently, we have come to know a lot more about individual birds. The

godwits of Foxton are a much studied population. Jesse Conklin and Phil Battley now have moult and migration patterns for individual birds stretching over many years. Meanwhile, a godwit banded as a first year bird in Victoria in June 2010, subsequently moved to New Zealand and established itself at Omaha. There it came under the scrutiny of PMNT member Marie Ward. Its orange flag coded AU made it hard to miss. She recorded it on 13 January 2013. At the end of March, it was seen by Andreas Kim at Mokpo in South Korea. On 12 October Marie saw it back at Omaha. This became a pattern over the next few years, with Marie and Andreas annually connected through sightings of the same bird at the same locations.

The extraordinary site fidelity of these birds leads us to the story of AJD, the subject of this delightful book. Caught and banded on 30 October 2008 at Foxton Beach, it was aged as an adult, which means while it is not known when it hatched, it was at least three years old. Ever since it has spent most of its time at the Whanganui Estuary, where photographer Paul Gibson became its chronicler. Here is the outcome of observations from over 90 visits to the estuary: arrival and departure dates, moult schedule, foraging activity and behaviour. It is splendidly illustrated with sumptuous photos. This will come as no surprise to anyone familiar with the author's previous books such as Birds New Zealand: Beauty like no other.

While the focus of this slender book is on one bird, it is really a celebration of all godwits. There is a lot of information, but it is presented in an easily accessible style, suitable for all ages.



LATE: AJD on 31/10/2021, arriving back at Whanganui estuary later than usual. This is his 14th year on the estuary. PHOTO / Paul Gibson

Restoration report

From the Land

Ray Buckmaster reports that after a long abscence the folk from Auckland were able to come back to the Findlay Wildlfie Reserve and see how much work the Waikato team has been putting in.

After the winter planting comes the spring rain, and growth. But after that comes the big summer dry, the toughest time of year for our plantings.

In December the 2021 plantings were surviving well with little if any signs of stress and many had flowered and are producing seed as have some of this year's saltmarsh ribbonwood. After a prolonged dry period with extreme temperatures the area has received nearly 80mm of rainfall. It came too late to save some plants, including a few that were planted in 2019 and 2020. The plan is to take a closer look at survival of the varied species late in March.

The growth of annual weeds has been remarkable, and it can be difficult to find the natives we planted, but they are there. Our two biggest problem weeds are fennel and the grass *Carex divisa*. The saying, "one year's seeding, seven years' weeding", does unfortunately have some truth to it when it comes to fennel. The wet spring and early summer coincided with the period when we were locked out of the reserve due to Covid. While all areas are affected the most recently planted area has the biggest problem and will require the most attention in the coming months.

The nursery, supported by Annie and Sean's Farm Cafe, is close to capacity with over 6000 plants and there was a real need to improve our watering systems. With the assistance of funding from the Valder Trust of Waikato Forest and Bird a digitally controlled watering system has been installed. There are now four areas that can be watered alternately during a cycle. The system is not perfect but is a substantial step forward in making the most of our funds by growing our own plants.

Restoration work is so much more than just the planting days, there is ongoing work behind the scenes to continue to find the funding to support this work. Great news is that we have just received a grant for just over \$12,500 from WWF to support the buying of additional plants.

This years planting day is the 25th and 26th of June. The plan includes the strip between the road and the western side of the Stilt Pond. Do come along and help.

Work on the reserve and in the nursery does occur year round. If you are able to regularly help with that, or ready to organise others please let Keith know, this is a massive job and more hands are needed!



GROWING UP: Plants at the nursery

PHOTO / Ray Buckmaster

Report form the Chair

Planning for the future

The first article in this issue is the obituary for Jim Eagles. As Keith Woodley has written in his tribute, we have lost a treasured colleague. We shall miss Jim on many levels: as Editor of this magazine obviously, but also as a valuable member of the PMNT Executive Council and as the driving force behind many of the projects that we have been proud to support over the last few years. Keith has mentioned the Pacific Golden Plover project - this probably would not have happened without the vision, enthusiasm, and persistence (even obstinacy) that Jim displayed in pursuit of his objectives in studying these magnificent birds. Jim is also largely responsible for the 2022 Calendars that some of us are lucky enough to have on our walls. (Sorry if some of you missed out on the limited print run.) Jim also made a valuable contribution to the governance of PMNT as a member of Council. His background as a journalist and his view of the wider world outside conservation and birding and natural history in general gave him a perspective on our deliberations that will be missed by us all. RIP, Jim. You and your family have made a huge contribution to Pūkorokoro Miranda. Your spirit lives on with us and with many others.

The Delta variant of COVID-19 caused the cancellation of our Welcome to the Birds scheduled for 10th October 2021. Now we have the Omicron variant in our community and the daily case numbers have increased beyond the previous peak in November 2021. Already the Omicron variant has caused the cancellation of the PMNT Field Course. As this issue of PM News goes to press we are not sure whether the Farewell to the Birds will be similarly affected by the pandemic but at least we now have a high rate of vaccination in Aotearoa New Zealand, reassuring us to some extent that most of us are protected from the worst effects of the virus.

Life goes on and PMNT Council will be meeting on 20th February. One of the big decisions we are planning to make at that meeting is whether to align ourselves with Destination Coromandel, a tourism organization. According to its website, "Destination Coromandel Trust is funded by Thames Coromandel District Council and Hauraki District Council, supported

direct local tourism industry investment to promote The Coromandel as a visitor destination." Destination Coromandel has commissioned an organisation called "Tourism Recreation Conservation" (TRC) to prepare a feasibility study regarding the potential redevelopment of the Shorebird Centre into a world class eco-tourism, conservation, and education experience. Of course, we believe that we are already world class but, with the benefit of an outsider's view, we may be persuaded that there are better ways of doing some of the things we do. As PMNT Council we have already discussed this report and offered some feedback to TRC, but we have not made a firm decision on whether to proceed from this initial study to the second stage of TRC's process, which will be a more substantive business case. That decision will be made at the meeting on 20th February.

As we are discussing future plans in the context of making ourselves more attractive to tourists, we shall devote the remainder of our February meeting of PMNT Council to more general planning for the future. We started this process back in 2018 and we were helped by Judith McMorland, who had the benefit of an independent, unbiased view of our organisation. Judith is a retired academic from the University of Auckland, where she specialised in organisational governance and conflict resolution particularly in not-for-profit organisations. Our intentions were good, but we did not complete the process after our initial meeting in 2018 and got distracted by the immediate issues confronting PMNT Council. The immediate issues have not disappeared, and they never do, but we shall do our best to put them to one side as we grapple with setting our priorities for the future.

> Ngā mihi. William Perry.

Whimbrel - occasionally stopping in.



TALL DARK AND HANDSOME: Whimbrel in a godwit flock Avon-Heathcote estuary PHOTO / Ian Southey

One of the less common of the regular migrants to NZ is the Whimbrel. Mixed up with both the Bar-tailed Godwit – due to size – and the curlew, due to its down-curved bill the Whimbrel is a handsome dark wader with a distinctive crownstripe and a song all of its own.

It took me years of being interested in waders before I saw a Whimbrel. I heard their quite distinctive call behind the mangroves, if I went to check out the turnstones the people who stayed behind saw a Whimbrel, or if I stayed put those who went for a walk saw them. I heard that dreaded birders refrain- you should have been here yesterday.

It turns out that Whimbrels are easy to catch up with if you are in the right place, but that place can be somewhere unusual. For years they've been regular on the Firth of Thames census, but not from the main roosts. They've been long been found on shellbanks that are up against mangroves near Thames, but more recently, and joyfully, regularly seen in the Piako roost in flocks of 20 or more. In January however there were records from the main shellbanks, an unexpected treat for birders passing through.



Source IUCN

Worldwide Whimbrel are long distance migrants, found in NZ, to the bottom of Africa and South America. They've been studied migrating along most of the major flyways. In our area of the world the group that is probably the best studied are the Whimbrels of Broome in NW Australia. Several were caught and tagged with satellite transmitters in 2017, one of which continued to operate until 2020. Matching up with what's been found with Whimbrel else where in the world they stopped in multiple places on their migration, quite different from the strategy for the Bar-tailed Godwits.

They departed Broome in late April, and as expected staged in China, sometime flying straight to a point level with Taiwan, other times stopping along the way in the various island groups north of Australia. They hop northward along the coast up to the top of the Yellow Sea before heading to their Chukotka breeding grounds (in the general area the knots earlier in this issue breed).

Similarly, their tracks south can vary substantially, one of the Whimbrels tracked showed different southern migration tracks each season, once doing a long sea crossing from the northern staging grounds to PNG, a flight of nearly 7,000km and the next year stopping in China and Indonesia on its way home. Google Whimbrel tracking updates vwsg if you'd like to find out more.

Why haven't we studied them in New Zealand? Well, if you though catching golden plover sounded hard...

- Gillian Vaughan



Tena koutou
Welcome back to the Godwit Times!

I hope you all had a lovely Christmas and are looking forward to 2022!

This magazine is all about my friends, the Whimbrels (can you spot him?). They are big shorebirds who come to Aotearoa from the Arctic! Only 70 Whimbrels come to Aotearoa each year. That's not a lot! When you are out at Pukorokoro Miranda, see if you can spot the difference between a kuaka and a Whimbrel. Hint: Look at the size and shape of the bill. One is also bigger than the other.

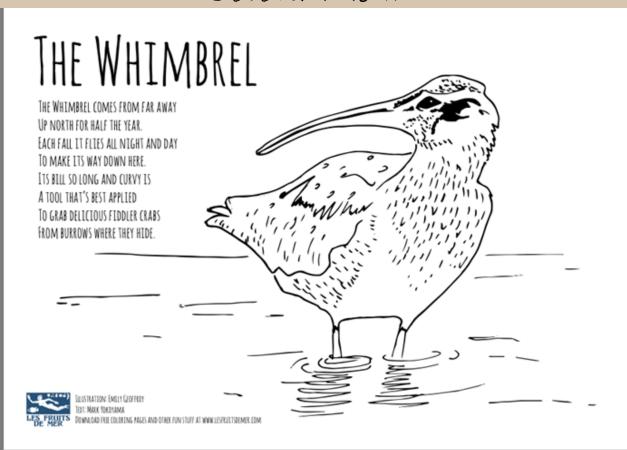
Read the cool story and colour in the Whimbrel below.

Don't forget if you have been on any adventures, just send Godfrey an email godfreygodwit@shorebirds.org.nz

See you at Pukorokoro!

Nga míhí, Godfrey

Colour Me In



Pūkorokoro Miranda Naturalists' Trust



The Shorebird Centre

283 East Coast Road RD 3 Pokeno 2473 phone (09) 232 2781 admin@shorebirds.org.nz www.shorebirds.org.nz www.facebook.com/ MirandaShorebirdCentre

Manager: Keith Woodley Centre Assistant: Chelsea Ralls Shoreguide: Hera Clark

Pūkorokoro Miranda Naturalists' Trust Council

Chair: William Perry home 09 525 2771 wncperry@outlook.com Deputy Chair and Banding Convenor: Adrian Riegen riegen@xtra.co.nz 09 814 9741

Secretary: Trish Wells Trishwells1@gmail.com 0272 688 057

Treasurer: Kevin Vaughan kandjvaughan@gmail.com 09 817 9262

Council members: Gillian Vaughan (Immediate Past Chair), David Lawrie, Wendy Hare, Bruce Postill, Trudy Lane, Ann and Ray Buckmaster.

Magazine

Pūkorokoro Miranda Naturalists' Trust publishes *Pūkorokoro Miranda News* four times a year, in print and digital editions, 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.

Editor (temporary): Gillian Vaughan gillianrv@gmail.com 0272399737

See the birds

Situated on the Firth of Thames between Kaiaua and the Miranda Hot Pools, the Pūkorokoro 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 Pūkorokoro Miranda high tide is 30 minutes before the Auckland (Waitematā) 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 \$135 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. 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 decision making through the annual meeting.

You can join at the Centre, pay via our webpage (www.shorebirds.org. nz), by direct credit to bank account 02-0290-0056853-00 or call the Centre with your credit card details. Contact admin@shorebirds.org.nz for further information.

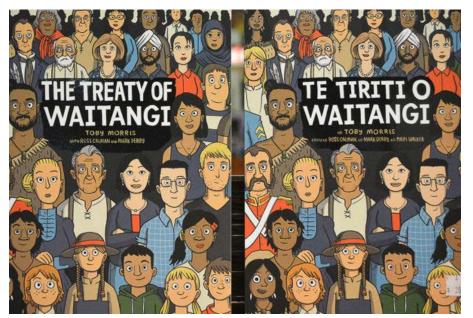
Bequests

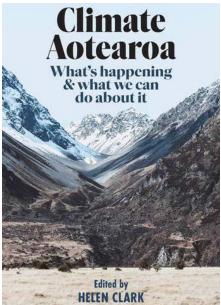
Remember the Pūkorokoro Miranda Naturalists' Trust in your will and assist its vital work for migratory shorebirds. For further information contact the Shorebird Centre.

Become a Volunteer

There's always a need for volunteers to do a variety of jobs including helping in 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 chat with the team at the Centre to see what will best suit you.

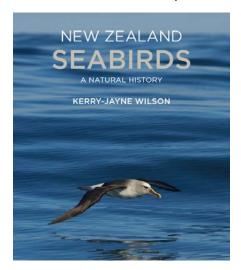
PMNT's work is made possible by the generous support of our sponsors FOUNDATION Te Kaitiaki Pūtea ō Tāmaki ō Tai Tokerau Waikato REGIONAL COUNCIL Trust Waikato Department of Conservation Te Papa Atawhai CHISHOLM WHITNEY CHARITABLE TRUST Valder Conservation Grant orest & Bird LEN REYNOLDS TRUST Sean and Annie Wilson's Miranda Farm Shop • Cafe • Gallery Ron & Edna Greenwood NEW ZEALAND Environmental Trust LIVING WATER

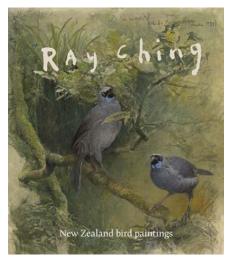


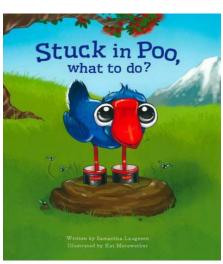


Great new books for all interests

From the founding of NZ, a bilingual graphic-novel-style flip book looking at Te Tiriti, through climate change, natural history, art to Aotearoa / New Zealand kids books there is something for everyone at the Centre bookshop









Upcoming Exhibition

Lockdown Series – new watercolours by Keith

Woodley

Also work by PMNT member Brenda Hart.
A contemporary jeweller, Brenda's work is informed by the Pūkorokoro landscape and its godwits.

Miranda Gallery (At Stray Dog cafe) 27 February to 20 March

If you can't make it to the Shorebird Centre shop
Visit our amazing online shop at https://shop.shorebirds.org.nz/
Send an email to shop@shorebirds.org.nz
Ring 09 232 2781 and chat to the friendly team

We'll be happy to help