

Pūkorokoro Miranda News

Journal of the Pūkorokoro Miranda Naturalists' Trust

February 2021 Issue 119

Look out for Fernbirds

It seems there are a lot more Mātātā
around than we thought



**\$100,000 donation makes new
Manager's Roost a reality**



NEARLY THERE: PMNT is now able to buy a cottage like this, possibly with a carport, as the manager's home.

Shorebird Snippets

Anonymous \$100,000 donation makes new Manager's Roost a reality

PMNT will definitely be able to put up a new three-bedroom cottage for the centre manager this year following an amazing anonymous donation of \$100,000.

The donation took the fund for the Manager's Roost Appeal to a total of \$266,456, which is more than enough to pay for a good-sized three-bedroom house from Keith Hay Homes on a site adjacent to the Centre.

An excited appeal organiser Ann Buckmaster said this was fantastic news with which to start off 2021. 'It's a wonderfully generous gesture by our anonymous donor. Thanks to that \$100,000, and all the other donations people have kindly contributed to the fund over the past year, we can say our Manager's Roost Appeal has been a success,' she said. 'Before the year is out Keith will be in a warm, dry, new home. What an achievement given the year 2020 has been.'

Council members David Lawrie and Gillian Vaughan are now negotiating with Keith Hay Homes, Waikato Regional

Council and Hauraki District Council over the final details. There will be extra costs involved in the wastewater system, decking, steps and some interior work as well as removing the old cottage. However, Adrian Riegen has offered to design the decks and organise a working bee to build them, which will help to keep expenses down, and if necessary the Trust will meet any shortfall from its general funds.

In the meantime, the appeal will be kept open in the hope of covering all the costs and, Ann said, 'if there's any money left over we might even be able to add a carport which would be terrific.'

The appeal was launched back in November 2019 after a builder who took part in one of the Trust's working bees expressed concern at the condition of the old cottage. Further investigation confirmed that it would definitely not meet the new requirements for rental housing to be warm, dry and properly insulated.

In addition, as Ann pointed out, while Keith has been happy to live in an elderly,

two-bedroom cottage, it would not be at all suitable when one day Keith retires and the Trust has to find a replacement.

When the appeal was launched it quickly raised over \$100,000 but fundraising came to an abrupt halt when the outbreak of Covid-19 necessitated a national lockdown. Fundraising did resume when the national lockdown ended and was starting to gain momentum again when the Auckland lockdown stopped everything once more. More recently donations have continued to trickle in.

Anyone wishing to make a contribution can do so through the Centre or our website by indicating that the money is for the Manager's Roost Appeal.

There will also be a special fundraising effort at our Migration Day on 7 March. PMNT stalwarts Bev and Brian Woolley kindly offered books from their amazing birding and nature collection for sale in aid of the project. These include many wonderful books in excellent condition including: *Native Trees of NZ*, *Kakapo*,

COVER: This picture of a Fernbird or Mātātā eyeing up intruders was taken by Jim Eagles near the mouth of the Waihou River.

New Zealand Birds, Birdwatching, Shorebirds of NZ, Field Guide to NZ Orchids, NZ Alpine Plants, Shorebirds of Australia, The Directory of Australian Birds and many more. There is also a complete set of the OSNZ Southern Bird magazine and an almost complete set of *PMNT News* which we may be able to complete by photocopying. In addition, Jim Eagles is donating a couple of dozen brand new books about birds, nature, history and Captain James Cook, that he has reviewed for the *NZ Herald* and the Kete Books website.

Although the books will be for sale at less than retail prices, Ann pointed out that 'all the proceeds will go the Manager's Roost Appeal so we do hope people will give generously and not just look on this as a way to get a cheap book.'

For further information contact Ann (annandrayb@gmail.com or 021 053 6766).

Oldest godwit?

There is a new candidate for oldest Bar-tailed Godwit. Adrian Riegen reports that a bird was banded with engraved flag ASE on 18 December 1993 aged two. 'Although it has not been seen in New Zealand since 2015, it was seen and photographed in the Brisbane region on 20 October last year which,' he said, 'makes it by my reckoning 28.3 years old.'

Happier accounts

The initial draft of PMNT's annual accounts for 2020 paint a much rosier picture of the Trust's financial situation than in recent years: instead of the loss of \$84,274 recorded in 2019 there is a net profit of \$42,851.

Of course the accounts, drawn up by treasurer Kevin Vaughan, have yet to be audited. And to some extent the result is a little artificial. It is bolstered by a \$37,000 bequest and the \$17,905 grant received from the Government under the Covid-19 support programme.

Similarly, the Trust's bank accounts look very strong, totalling \$523,628, but that includes at least \$305,000 tied to specific projects such as a new home for the manager, habitat restoration and flyway projects.

But the end of a string of deficits which have eaten into the Trust's reserves is nevertheless very welcome. Partly the good result is due to the fact that the impact of Covid-19 – with its lockdowns and the disappearance of overseas visitors – was nowhere near as bad as expected.

Shop sales, at \$81,502, were only \$8,000 lower than the year before – a remarkable result considering how long



BOOK SALE: PMNT stalwarts Brian and Bev Woolley have donated an impressive collection of nature books to be sold in aid of the Manager's Roost Appeal. Bev has played a prominent role in the history of PMNT and served on the Council for seven years. She was part of the Waikato Branch of Birds NZ which in the 1980s and 90s was the most active in the country and greatly assisted PMNT. The present training courses are perhaps her greatest contribution. In the late 1990s, to increase usage of the Centre, the Trust developed an events calendar. Bev suggested a residential training course modelled on events OSNZ used to run on Farewell Spit. The first one in January 1999 was a great success and 23 courses later it remains a flagship event. Wader ID courses were the first spin off, followed by art and photography. Then Gwenda Pulham identified the need for a New Zealand Dotterel management course and Bev, who was then helping with monitoring dotterels at Opoutere, agreed. She began organizing the first course, which ran in September 2003. Aimed at agency staff, community groups and other volunteers, the three day course, tutored by John Dowding, covered biology and ecology, threats, management techniques and public advocacy. As a result there are now hundreds of people out there with the skills to manage dotterels and other coastal birds. This in turn, has contributed to the dotterel success story which recently saw the threat ranking for the species lowered from Vulnerable to Recovering.

Photo / Anne Buckmaster

What's on at the Shorebird Centre

Sunday 7 March: Migration Day

11:00 Speaker: Dr Oksana Borowik did her PhD on Calidridine sandpipers. Then her career took off as a science educator through documentary filmmaking, primarily for the Discovery Channel, and teaching. She is also a beekeeper on the Coromandel Peninsula specializing in manuka honey. Oksana will speak on the conservation and science of birds and bees. As a special treat the Auckland Welsh Choir, of which chair William Perry is a founding member, will sing the world premier of *Journey of the Kuaka*, a song composed by Musical Director Diana Williams-Rhodes. There will also be a sale of birding and nature books in aid of the Manager's Roost Appeal. 14:30 High Tide.

Sunday 16 May: AGM of Pūkoro Miramira Naturalists' Trust

11:00 Speaker: Lynn Miller from Bird Rescue, Green Bay, who recently returned to New Zealand after several years in the US and Canada. She has formidable qualifications and experience as a bird vet and is proving a huge asset to local bird rescue work. 10:00 High tide. Book sale.

4-7 June: Birds NZ Conference in Thames

Sunday 20 June: Firth of Thames June Wader census

26-27 June: Findlay Reserve Planting Day

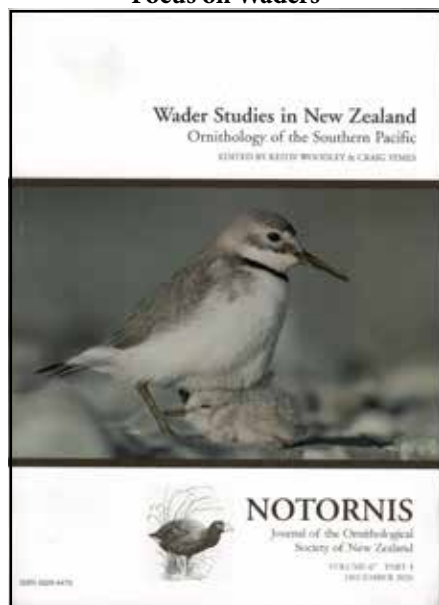
Saturday 14 August: Mid-Winter Pot Luck Dinner

Working Bee, birdwatching, Pot Luck Dinner followed by Team Quiz.

the shop was closed – while nearly \$18,000 less was spent on stock. Accommodation, at \$23,963, was more than \$4,000 higher. Income from membership was up slightly. Donations – bolstered by \$1,365 from the new tap point in the last few months – were only \$3,000 less than in 2019.

But the biggest factor in the turnaround was probably the steps taken by the Council to reduce costs. The reluctant decision not to employ an educator or a fulltime summer shoreguide saved about \$26,000. Making the magazine available digitally reduced printing and postage costs by about \$4,000.

Focus on Waders



In December, a special issue of the Birds New Zealand journal *Notornis* devoted to waders/shorebirds was published. This provides a welcome update on a similar special issue published in 1999.

Included in the earlier volume was a paper presenting the results of National Wader Counts from 1983-1994. In the 20 years since publication, those data along with many other papers in the special issue were widely cited – in other papers, at planning and resource consent hearings etc. So, the appearance of ‘Distribution and numbers of waders in New Zealand, 2005–2019’ (Riegen & Sagar 2020) in the latest issue provides a long overdue update on our wader populations.

Analysing and reporting on substantial data, it stands as a tribute to the countless hours spent by hundreds of Birds New Zealand members and other volunteers who have participated in the national wader censuses.

It is one of 19 papers and short notes contained in the special issue. Another paper documents the New Zealand and eastern Australia special census of the

baueri Bar-tailed Godwit population in February 2020.

A paper by John Dowding on New Zealand Dotterels documents a significant population increase for the northern dotterel population. Successful management has allowed its threat ranking to be lowered from Threatened (Nationally Vulnerable) to At Risk (Recovering). Playing an important role in that story were the many people who have completed Dotterel Management courses at Pūkoro.

Keith Woodley, who agreed to be co-editor of the special issue at a Birds New Zealand council meeting, says he ‘had little idea of what would be involved. I soon found myself engaged in a complex and time-consuming task, relying heavily on the patience and good will of contributors and reviewers. As a newcomer to the task, I must acknowledge the very patient guidance throughout the process of *Notornis* editor Craig Symes, who shouldered much of the burden.’

Elusive PGP


Catching Pacific Golden Plover continues to be challenging. We had hoped to get three birds before Christmas to fit with the three extra tags given to us by manufacturers Lotek Wireless.

We even had a working bee at Adrian Riegen’s place to polish the cannons and patch up the nets. But conflicting events and appalling weather forecasts meant we only assembled a team at the catching grounds once.

On that occasion 40 knot winds in the evening made it impossible to put out a net in the sarcocornia on the shellbank where they were roosting most of the time. Instead we had to be satisfied with one at the sarcocornia near the Limeworks where they were going less often. Needless to say, in the morning the wind died down and the birds landed right where we expected them on the shellbank.

After the Christmas break Adrian organised another attempt during the Field Course and the PGPs promptly began roosting either out on the mud or in the middle of the Stilt Ponds. As a result the decision had to be taken to move to Tara-maire and catch oystercatchers.

In early February a small team tried catching PGPs in mist-nets but had to be satisfied with a few godwits, oystercatchers and stilts.

Another attempt is planned towards the end of the month. Mist-netting did, after all, produce all three birds caught in the first season, and three of the six caught in the second season. 

Cat in a backpack goes birdwatching



Volunteer shoreguide Mary-Ann Rowland couldn’t believe her ears when a photographer alongside her in the Godwit Hide used his big lens to peek at a woman at the adjacent Wrybill Hide and suddenly exclaimed, ‘She’s got a cat!’ Mary-Ann admits, ‘I didn’t believe him so checked with the telescope. Yep. It was a big fluffy white cat.’

Needless to say she went to investigate. ‘As I walked towards her I saw her lean over the front wall of the hide to pick the cat up. This was getting more and more bizarre. By the time I got to her the cat had been put in a very fancy clear perspex backpack.’

The woman also had a special harness for the cat when he went for walks.. ‘Apparently she had it on him while he was out of his back pack at high tide just a few metres from the birds. I couldn’t believe what I was seeing.’

A discussion with the owner revealed that she was from Beijing but had lived in New Zealand for 10 years and took her cat with her everywhere. She said ‘of course she wouldn’t let it off the lead when there were birds around.’

Mary-Ann did her best to explain that a wildlife reserve was not an appropriate place to bring a cat for a walk – on the lead or not – then the woman wandered back to the car park with the cat enjoying the view through the window of its backpack.

Photo by Ron Chew

If botulism hits waterbirds and fish this summer conservation groups will be better prepared

Although this summer has been very dry, so far there hasn't been a repeat of the botulism outbreak which killed several thousand birds, but if it does happen local councils, government agencies and volunteer groups will be better prepared, reports **Keith Woodley**.

The summer of 2019/2020 was one of severe and prolonged drought. One effect was an increased incidence of botulism on the Hauraki Plains, with massive mortality of waterfowl and fish.

Waterways that became heated and stagnant were deathtraps for tuna and other fish species. Fish and Game staff collected over 3,500 dead birds, mainly ducks. At Pūkoro in February nearly 100 shorebirds, primarily Red Knots, were affected by what was suspected to be a toxic algal bloom. Recognizing the seriousness of the entire event, Waikato Regional Council (WRC) convened a series of drought response hui. Represented were iwi, Department of Conservation, district councils, Fish and Game and PMNT.

As for this season, a hydrology report presented to the hui in November showed the region tracking for the lowest rainfall on record since records began in 1907. There were also record low flows in the monitored rivers. This indicated a real possibility of conditions being worse this year. By late January, however, there was no indication that this was in fact the case.

It is of course, early days, and the next few weeks may still see a prolonged dry period. Following the drought response hui, agencies are now better placed to respond to any adverse events.

WRC staff are regularly monitoring waterways. The Council has prepared a 'Drought Aquatic Life Response' manual to guide staff and volunteers. It has also obtained a 5-year region-wide permit from the Ministry of Primary Industries to allow for translocation of fish if required. It was agreed at the hui that the DOC Biodiversity Hotline would be the first point of contact for anyone finding ailing wildlife.

Last year the botulism event began in late December, with the worst of it occurring through January.

On 13 January 2021, an outbreak was reported from wastewater plants at Waihi and Paeroa, but both seemed to be of limited scale. Meanwhile Fish and Game and DOC staff have been checking hot spots identified last summer along the canals running into the lower Piako and Waihou Rivers in the Firth of Thames



TRAGIC: Birds killed in an earlier toxic outbreak. Photo / Rachel Hufton

area. As of 25 January, there were no records of dead birds in this area.

Also standing by are bird rescue and rehabilitation facilities around the region. Auckland Bird Rescue at Green Bay has

formed a ready response team to be deployed at short notice.

Events of last year may or may not be repeated, but if they are, everyone should be better prepared.

Regional Council may help to fix Stilt Ponds

Waikato Regional Council has indicated it will do its best to help the Trust solve the problem caused by the silting up of the old drains from the Stilt Ponds which has prevented flushing and led to the ponds frequently being too deep for most birds to roost.


The PMNT Council wrote to WRC chair Russ Rimmington expressing concern that another drought might well create the conditions for a toxic bloom in the ponds.

The Council also explained that the requirement to get several permits to clear drains and mangroves and for the existing culvert, plus needing to employ an experienced planner and to draw up hydrogeological and ecological reports, would be very expensive and possibly beyond our resources to pay for.

In reply Mr Rimmington said the need to get permits was unavoidable. But the WRC 'can provide in kind support to PMNT with this proposed restoration project through the provision of technical advice from Council's science and integrated catchment management teams'. The proposal might also be eligible to have the permit charges remitted.

PMNT could, he suggested, seek funding for the project from the Nature Heritage Fund or Living Water.

In addition, Mr Rimmington advised the Trust to participate in the current review of the Waikato Regional Coastal Plan to create a regulatory regime which would make it easier for us to undertake similar work in future.

The Council will be contacting the WRC to follow up those suggestions. 



STAR ATTRACTION: The presence of a Lesser Sand Plover on the Shorebird Coast this summer has proved a real magnet to birders and photographers, producing some great pictures like the one above by Bartek Wyptych and the one opposite by Mike Vincent.

Predatory Pukekos and an obliging Lesser Sand Plover

For the Shorebird Centre it has been the year of the Pukeko. While over recent years they had become a common feature around the place they were not always present – often spending time off the property, in the surrounding paddocks or across the road. Now they seemed permanent fixtures.

All though lockdown if they were not on or around Widgery Lake, or wandering across the tops of the shrubbery, they would be hanging around the front steps or patrolling the path to the cottage. Their piercing shrieks became part of the nocturnal soundscape as well. Then, in December, their intersection with another dominant feature – the prodigious House Sparrow population – became increasingly evident.

It was Centre Assistant Anne Gummer who first noticed what was happening. ‘I am not too impressed with what those Pukeko are doing,’ she informed me one morning. By this time there were a number of juveniles among the extended family around the lake.

We watched as an adult sauntered across the driveway towards the shrub line where the sparrows had established their usual high rise apartment nest arrangement. It would patrol beneath the foliage and then emerge at a trot, heading back to the lake with a sparrow fledgling in its

bill. To us anthropomorphic observers, a certain guilt was evident in its trotting gait, compared with the earlier innocent saunter from the lake edge.

Over the next few weeks, it was a regular sight throughout the day. There were plenty of sparrow nests, hence plenty of youngsters tipped out. While the Pukeko traffic seemed too frequent to be taking just chicks from the ground, I never saw whether any were being taken directly from the nest.

Meanwhile, the lake itself was a busy place through the summer. There were the ubiquitous Mallards, with at least five pairs producing offspring. Occasionally a solitary Grey Teal was also in residence.

Present also were the pair of White-faced Herons which took to roosting on a horizontal branch immediately across the lake from the kitchen window. That is, if they were not using the railing of the front deck or the water tanks for that purpose. Or if the Little Shag, which also became a regular, had not grabbed the roosting branch instead. However, at least the herons did help with rodent control at the Findlay Reserve (see photo opposite).

Then in late December, as the water level dropped, a pair of stilts with two juveniles made regular appearances. They seemed to find plenty of prey on the lake surface. Finally, during the Field Course a

Banded Rail could often be seen foraging around the water edge.

The Little Shag also made an impression on the building itself. One morning strange splatter patterns appeared on the lower sections on the ranch sliders along the front deck. These I cleaned only to find a repeat the next morning. The shag had taken to roosting on the power pole beside the deck, from there it defecated prodigious amounts. To my jaundiced eye it seemed to do so only during a north easterly breeze, which was perfect for transferring material to the window.

Among the usual suspects out on the shoreline two, and occasionally three, Far Eastern Curlews were often seen from the Godwit Hide. They would generally hang around behind the main flocks of godwits and knots, where they offered the viewer a great size comparison with their more numerous companions.

Meanwhile the Pacific Golden Plovers resumed normal service: that is, showing well but invariably in uncatchable configurations. The Royal Spoonbill flock reached 100 last year, but by January it was down to 30 or so birds. They continue to be a big hit with visitors to the hide.

Also showing well for long periods over the summer was the Lesser Sand Plover. For the mid-November Wader ID course, the bird was most obliging. On



the beach at Taramaire, halfway between the camper vans and the stream mouth, it sat with a New Zealand Dotterel and a few Turnstones. Just like a field guide illustration plate.

Its overall grey-brown upperparts looked quite different to the brown upperparts of a similar sized Banded Dotterel. The dark patch around the eye, the strong grey brown 'shoulder tabs' and the short dark bill all showed clearly. Often a challenging species to correctly identify in non-breeding plumage, this Lesser Sand Plover stood out, even when sitting!

One or two of these visitors from eastern Russia, seem to reach New Zealand

each year. Nowhere do they commonly occur, although the Manukau and Kaipara Harbours have the most records.

When people talk about the difficulties of shorebird identification, this bird offers a classic example. It is superficially similar in size and structure to a Banded Dotterel. Its cousin, the Greater Sand Plover, also straggles to New Zealand, but in non-breeding plumage they can be hard to separate. The Lesser is overall smaller in size, leg length, bill size and shape, with a more rounded head than the Greater. A heavier looking bill and a slightly lankier appearance may help determine a Greater.

Keith Woodley



NATURAL: A White-faced Heron does its bit for predator control on the Findlay Reserve.
Photo / Keith Woodley

Recent sightings at Pūkorokoro

Arctic Migrants

5,400 Bar-tailed Godwit
1,100 Red Knot
14 Turnstone
37 Pacific Golden Plover
2 Sharp-tailed Sandpiper
1 Lesser Sand Plover
3 Far Eastern Curlew
1 Curlew Sandpiper

NZ Species

3,100 SI Pied Oystercatcher
965 Wrybill
535 Pied Stilt
31 Royal Spoonbill
300 White-fronted Tern
12 Banded Dotterel
Black-billed Gull
Variable Oystercatcher
White-faced Heron
NZ Dotterel
Caspian Tern
Banded Rail



FLYING HIGH:
Godwit
4BWWB
still with
its tag and
well into
its moult.
Photo/
Mike
Vincent

So where are those tagged godwits now?

After all the southward migration excitement of the satellite tagged godwits it has gone quiet as the birds recovered from the migration and went a full wing moult, which takes about three months and should now be complete.

The superb picture of 4BWWB (above), taken on 15 January 2021 by Mike Vincent shows beautifully the outer two primaries still growing. With wing moult finished it is time to moult into breeding plumage and start to fuel up once again for the journey north due to commence in the first week of March.

But where are the birds now? As you may remember, some of the transmitters stopped working or had fallen off or the birds had died. To try and find out which, several people have been searching the flocks trying to find all the birds to confirm their status and this has been only partially successful. One problem at Pūkoro Mirānda is the soft mud so the bands are often buried in or covered in mud when roosting, making reading the combinations challenging. The Stilt Ponds have been drying out but when the godwits roost there they prefer to stand in belly deep water, once again making the bands impossible to see.

Seven birds are still transmitting regularly from the Firth of Thames with some signals showing them well inland at times but these points are likely to be just a poor signal rather than the birds moving up to the hills or the pastures. None have moved to other harbours or estuaries around New Zealand, which is not too surprising as we know adult godwits are usually very site faithful, returning to the same places year after year.

The Godwit 4BBWY, the bird that after a long detour made it to Papua New Guinea and eventually to north Queensland has been transmitting infrequently from there, with the latest signal sent on 07.01.21. Is it still alive and has it decided to stay in Queensland this summer? It's hard to say at the moment but we shall be watching to see if it migrates north in March.

As far as I know, of the seven still transmitting in the Firth, five have been seen and five that are not transmitting ZVV, 4BBWR, 4BBYR, 4BBYW and YCA have also been seen. We hope more of the 20 tagged birds are detected, so please help look for them and report them to me though the Shorebird Centre.

The other project with the tagged juvenile godwits continues to provide good data from 16 of the 40 birds tagged (see the map at right). These include, 4RBWB that in March flew from Lake Ellesmere to Awarua Bay in Southland via New Caledonia (*PM*

News 118) and is still transmitting from Southland. 4RYRY has settled in at Blueskin Bay just north of Dunedin. 4RYYW is frequenting Wairau Lagoon near Blenheim, 4RYWW is hanging out on Farewell Spit and 4RYRB at nearby Motueka Sandspit. 4BBBW and 4RBWW have settled in to Tauranga Harbour and nearby Welcome Bay and a further five are transmitting from the Manukau Harbour, Firth of Thames and Coromandel. And finally six are still transmitting from Foxton Beach where they were tagged.

While we thought the juveniles might move around in New Zealand during their first three years most of those still transmitting seem to have settled into their favoured homes after just one year. It will be interesting to see if any of them wander again during the winter when the adults have migrated.

Adrian Riegen





SAY AAAH: Researcher Xue Qi Soon takes a saliva swab from the throat of an oystercatcher held by her colleague Wantida Horpiencharoen. Photo / Jim Eagles

Taking swabs from oystercatchers at both ends

As well as providing more information about what South Island Pied Oystercatchers get up to, the latest catch of the birds will also help research into whether our birds are a source of chlamydia.

Taking swabs from humans to check for Covid-19 has now become common-place. But those involved at a cannon-netting exercise held as part of the annual Miranda Field Course last month became involved in a plan to take swabs from South Island Pied Oystercatchers. And not just nasal swabs but from both ends of the birds.

Initially the netting was going to be focussed on Pacific Golden Plovers in the hope of fitting three more of them with satellite tags. But when the PGPs proved even more uncooperative than usual, attention turned to South Island Pied Oystercatchers which can usually be found in large numbers at Taramaire Wildlife Reserve.

This fitted perfectly into a research project being conducted by Xue Qi Soon, a PhD student at Massey University's School of Veterinary Science, into the prevalence of chlamydia in New Zealand wildlife.

Chlamydia is the most commonly diagnosed sexually transmitted infection in New Zealand, affecting people of any

gender, plus a wide range of domestic animals. So alarm bells rang in 2013 when the disease was found in a Hihi, or Stitch-bird, caught in the pristine surrounds of Hauturu-o-Toi/Little Barrier Island.

A paper by Massey University researchers noted that this was the first time chlamydia had been found in a wild native bird in New Zealand, though it is known that the disease infects around 400 avian species worldwide. After carrying out a review of post-mortems on native birds the paper concluded that, 'The incidence of avian chlamydiosis in native birds in New Zealand appears to be very low' and 'It is unlikely that avian chlamydiosis is a significant problem for Hihi population health.'

However, the paper did warn that, 'The detection of this organism has greater significance for other more susceptible species on Little Barrier and for human health, particularly for conservation workers involved in wildlife translocations.'

Since then further research has been done on the topic, including a Massey university study involving Soon, which

found that 26% of wild Mallards – the most common waterfowl in New Zealand – carried chlamydia.

For her current research Soon needs to take samples from both migratory birds and wild native birds with the aim of finding the extent of chlamydia infection and, by analysing the molecular epidemiology, identifying the transmission networks between birds. 'With better understanding of the disease distribution and host range in the New Zealand context,' she said, 'specific surveillance and monitoring protocol can be designed to prevent disease spread for the conservation of native endangered species.'

Originally the plan was to sample birds in Malaysia as well as New Zealand, but Covid-19 blocked that, making her very keen to take part in any cannon-netting the Shorebird Centre might carry out.

So, as Field Course participants and birders from the Centre gathered at Taramaire at dawn with oystercatchers in their sights, Soon and colleague Wantida Horpiencharoen were also there with their surgical gloves, long swabs, sample tubes

A CATCH: (from top) Field Course participants race to free birds from the cannon net; Tony Habraken has an enthusiastic audience as he fits a SIPO with one of the new red tags; this oystercatcher seems rather pleased with its new jewellery.

Photos / Jim Eagles

and other equipment.

As is usual, the netting wasn't entirely smooth. Two nets had been set: one for Turnstones which had been frequenting the beach at Taramaire, and one for South Island Pied Oystercatchers, which were gathering at the mouth of the Taramaire Stream in large numbers.


'Everything was set, and both lots of birds were making their way into the catching zone,' organiser Adrian Riegen reported afterwards, 'when a Harrier cruised overhead and put the whole lot up. Most SIPO headed for paddocks and the Turnstone cleared off completely.'

Shortly afterwards, Jim Eagles saw seven Turnstones and 36 Pacific Golden Plover hanging out together on a dried up part of the Stilt Pond at the Findlay Reserve. Jim reckons, 'They were probably having a quiet chuckle together.'

After that a lot of careful work by the team eventually persuaded some of the SIPOs to return to the catching area but unfortunately, Adrian noted, about 20 were in an area where they were at risk of being injured by the net. 'We had to wait until the tide had turned and the SIPOs started to settle a bit before we could move the birds out of danger. Eventually we fired and although some birds escaped we were able to band 103 SIPOs and one Variable Oystercatcher.'

For the first time on the Shorebird Coast the SIPOs were fitted with new red leg flags with white digits. This is partly because the old flags used to wear out quickly in the stony South Island braided rivers where many SIPOs go to breed in spring. But it is also to assist a nationwide project aimed at finding out more about the movements of these birds.

Also new was the presence of Soon and Wantida. After each oystercatcher was banded it was taken to them to be swabbed at either end – to get saliva and faecal samples – before being released. These will now be analysed for the presence of chlamydia.

Meanwhile, keen-eyed observers may like to keep an eye out for oystercatchers wearing that attractive red and white jewellery. No less than 35 were seen out and about the day after the netting, indicating they have recovered well. 





EDUCATIONAL AND ENTERTAINING: This year's Miranda Field Course was once again fully subscribed and highly successful. As well as cannon-netting and banding (see opposite page) there were sessions on Coastal Ecology by David Riddell (shown above holding up a sample of sea water), Wader Identification (at left) and mist netting, which allowed participants like Huia Wesling Macgregor (below left) to band a Blackbird under the watchful eye of Adrian Riegen, and Jack Wilson (below right) a Silvereye. Other topics covered included Invertebrates, The Status of Shorebirds, The Flyway, Shorebird Foraging and the Ecosystem of the Upper Firth.

Photos / Keith Woodley,
Gillian Vaughan





ADVENTUROUS: Reaching Fernbird habitat on the Shorebird Coast often involves crossing flooded drainage channels and requires a little ingenuity. Photo / Alex Eagles Tully

Discovering a profusion of Fernbirds

Jim Eagles and his family joined Department of Conservation ranger Ken Brown in an effort to discover whether there are Fernbirds/Mātātā along the coastal strip . . . and were amazed at what they found.

We were just about to retreat from the Umbrella Sedge jungle, dotted with patches of Ribbonwood and fringed by Mangroves, that seems to cover most of the Firth of Thames coastline between the Piako and Waihou River mouths, when Ken froze and pointed at a nearby bush. Seconds later I heard the distinctive ‘wheet’ call. Seconds after that I saw first one and then two dark brown shapes skulking through the foliage. I even got photos. We grinned in delight. Two more Fernbirds.

That took our tally for a couple of hours to 11 definite sightings and at least six more heard, far more than we had expected, and very exciting.

We had gone to that area – helped part of the time by my daughter Alex and grandson Jamie – on the first stage of a project to put automatic call recorders along the coastline from the Shorebird Centre to the Waihou River to try to get a handle on the Fernbird population.

Already, without even hearing the results of the six recorders that are in place so far, we know that numbers there are very healthy.

That has particular significance for PMNT because Ray Buckmaster, who is leading the project to restore the habitat on the Findlay Reserve, has declared the Fernbird to be its signature species: in other words, when Fernbirds return to the reserve we will know it is a success.

Because of that I had started trying to find out whether there are any Fernbirds living close enough to return naturally or whether we might have to work towards a translocation. Looking through the records was not encouraging.

Fernbirds were once common in fern-covered flats and raupō wetlands across the whole of New Zealand. Māori knew Mātātā well, saw them as providing links with the gods and sometimes used them in ceremonies. In the 1870s the pioneer ornithologist Walter Buller described

them as one of our commonest birds. But in the decades after that a combination of loss of habitat and the spread of mammalian predators saw numbers collapse. Today both the North Island and South Island subspecies are classified as at At Risk/Declining and the status of the other three subspecies is even worse.

You’d imagine that the Shorebird Coast would once have been prime Fernbird habitat and certainly in the 1940s Dick Sibson regularly recorded them in the manuka swamp which once surrounded the old Miranda hot pools. Former Trust chair Stuart Chambers recalls being taken to the pools by Dick in 1949 to hear them but adds, ‘With the building of the present pools in the 1960s and the subsequent development of the area into farmland the Fernbirds have left.’

Since then reported sightings in the area have been few and far between. A detailed search of Trust records by Stuart found a 1975 Bird Report mentioning



SNEAKY: A Fernbird calling from a bush on the coast near Orongo (at left) and another poking its head out of the bushes (at right) to see what is going on
Photos / Jim Eagles

Fernbirds on a farm at Kaiāua; four years later the Selected Species List had two at the old roosting site at Karito, on the coast near the hot pools, and three at Waitakaruru; the species list also recorded three at Waitakaruru in 1982; a 1991 Trust newsletter reported Pam Agnew seeing them at Karito; and a 1993 Newsletter recorded a sighting at the pump station near Miranda Hot Springs.

‘That was the last I heard of them,’ Stuart says. ‘I went looking but saw nothing.’ In an article written in the newsletter at the time he commented, ‘The scrubby fringes of manuka, flax and raupo, which are the normal habitat of this bird, have been progressively pushed back as new stopbanks and drainage systems closer to the mangrove edge have allowed farming to spread. Where Fernbirds once lived cattle now graze.’ Certainly, Birds NZ’s 1999-2004 WebAtlas, has no record of Fernbirds on the Shorebird Coast.

However, there is a lot of work being done to restore some of that lost habitat. Last year PMNT volunteers planted more than 11,000 grasses and shrubs on the Findlay Reserve and this year the plan is to plant even more. Similar work is being done on DOC’s Taramaire Wildlife Reserve opposite the Centre and there is the possibility of the same thing happening on

the Tiaki Repo ki Pūkororo land over the road from the Findlay Reserve.

The plants going on to the Findlay Reserve are very much in line with the description of Fernbird habitat in Kevin Parker’s authoritative 2002 Master of Science thesis, *Ecology and Management of North Island Fernbird*, which studied the population in the Omaha Saltmarsh and also reported on the successful translocation of birds from a proposed motorway site near Orewa to Tiritiri Matangi Island.

Fernbirds prefer low, dense vegetation with emergent shrubs in swamps, saltmarshes and flats and the area Parker studied at Omaha is a narrow strip of coastal land ‘characterised by scattered Manuka, Marsh Ribbonwood (*Plagianthus divaricatus*), Flax (*Phormium tenax*), and New Zealand Broom (*Carmichaelia* spp.) with an understorey of *Baumea juncea*, *Juncus kraussii* and *Leptocarpus similis*.

Where they are able to find such habitat Fernbirds build tidy nests which are usually less than 1m above ground and produce an average of 3-4 eggs. Males and females look very similar and they share the task of incubating the eggs and raising the young. However, the male does play the dominant role in defending the nesting area, though this usually involves calling and displaying and only rarely

requires fighting or chasing.

Unlike well-behaved children, Fernbirds are generally heard but not seen, and they have a variety of calls. The most common call is a ‘u-tick’ which a pair will often produce alternately in a duet. The territorial challenge is a low chattering sound, which may last for several minutes. When foraging they also produce a loud ‘wheet’ noise.

They mainly eat insects (especially larvae, flies, beetles and moths), spiders and other small invertebrates, but are also known to enjoy fruit and seeds, and NZ Birds Online says there is one recorded case of a Fernbird eating a skink. Parker found that spiders, particularly the common nursery web spider and its egg sacs, were the most frequently observed prey items. ‘An adult Fernbird was observed pecking into the side of a nursery web spider web, presumably to gain access to the adult spider or the egg sac. An adult Fernbird was also observed eating Marsh Ribbonwood berries on one occasion.’

Unfortunately, not only have Mātātā suffered massive habitat loss, they are also highly vulnerable to predators. There are documented cases of entire populations on small islands being wiped out by cats, rats and Weka. Studies have also identified birds like Kahu, Mynahs and Kōtare as



CURIOUS: A Fernbird flies to the top of a Ribbonwood bush to check out the unexpected humans passing by.

Photos / Jim Eagles

predating Fernbird chicks.

Parker's study site at Omaha demonstrated just how vulnerable Fernbirds are. Even though the area was bounded on one side by the sea and on the other by a fence offering some protection from dogs, cats and possums, only half the 21 nests observed over two seasons successfully fledged chicks, mostly due to predation. Although it was not possible to conclusively identify the predators, the signs pointed very strongly to Stoats being responsible for the overwhelming majority of both egg and chick predation.

In addition, Parker carried out an experiment with artificial nests and eggs to try learn more about Fernbird predation and this mainly pointed the finger at mice. 'The results of the artificial nest experiment suggest that mice are at least potential nest predators and may have a significant impact on Fernbird particularly at the laying and incubation stage,' he concluded. 'This impact may be more apparent when rat numbers are low. Mice may also be significant competitors for invertebrate foods.'

Another possible competitor for food, Parker suggested, could be the Asian Paper Wasp which consumes many of the same invertebrates. 'If competition with Asian Paper Wasps for invertebrates

is occurring, North Island Fernbird may require larger territories to obtain food, particularly when feeding young.'

So, given all those problems, what are our chances of bringing Mātātā back to the Shorebird Coast. Well, the general locality has been given a big tick by no less an authority than Kevin Parker who, since writing his thesis on Fernbirds, has become a consultant and presided over 50 translocations. A year back Kevin visited the Shorebird Coast and went for a walk with manager Keith Woodley across the coastal paddocks just north of the Centre.

As Keith recalls, 'I was traversing familiar landscape: lumpy paddocks of shell ridges corrugated from years of stock grazing, covered in exotic grasses, interspersed with old fence lines and low lying fingers of salt marsh and sedges. Kevin was wearing different spectacles. He was visualising future Fernbird territories and estimated the land could support up to 20 of them.'

So what is the chance of that happening? Well, the right plants are going in the ground though they will take time to mature. And there are traps all along the coastline which, hopefully, will keep potential predators somewhat under control.

Unfortunately it's not always easy to know where there are Fernbirds. For one

thing, they're usually described in guide books as 'skulking', 'secretive' or 'sneaky', in other words difficult to see. For another, the kind of habitat they enjoy now mainly survives in inaccessible areas, like the spots where we found them on the coast which had to be reached by crossing a deep, muddy, drainage ditch.

But in recent years there have been occasional sightings not far from Pūkoro. There are reports on eBird of Fernbirds beside the track just across the road from the Centre in 1994, beside the bridge at Waitakaruru in 2016 and close to the Stilt Hide in 2018. In May last year Ken Brown was 'pretty sure' he heard Fernbird calls alongside the Hauraki Cycle Trail near the mouth of the Piako River.

Then in July Russell Cannings recorded two sightings along the cycle trail near the new Piako Roost. 'The birds I had were in the brackish wetland on the outside of the cycle trail dyke,' he said. 'I would imagine there is a steady breeding population as the tidal rushes, grasses, and Sarcornia seem like ideal habitat.'

Our recent foray into the coastal areas between the Piako and Waihou Rivers make it clear that Fernbirds are thriving in the mix of Umbrella Sedge, Ribbonwood and Mangroves found there and the numbers suggest that the coastal trapline



WHAT'S UP: (clockwise from top left) A Fernbird looks out from behind a screen of foliage; Fernbird nest; Ken Brown installs an automatic call recorder.
 Photos / Jim Eagles, Greg Sherley, Department of Conservation

– which has taken out a huge number of Ferrets – is working.

Once the planned line of call recorders is in place along the rest of the Shorebird Coast we'll be able to get an idea of where the birds can be found. The recorders will turn on for two hours at both 6am and 6pm daily and record what is going on. When they are recovered the recordings will be scanned by special software to identify any bird calls. Hopefully they will provide more encouraging information.

Certainly there is some good habitat on the lower Waitakaruru River and at Karito which could allow expansion of the population along the coast to Pūkorokoro.

Fernbirds are not great fliers but, according to the 1996 *Field Guide to NZ Birds*, 'After becoming independent, juveniles roam away from their natal territory and can turn up in small scrub patches and wetlands 20-plus km from the nearest breeding birds.' The Piako Roost, where they were sighted by Russell a few months ago, is less than 30km from the Centre.

As well as all our amazing shorebirds we've already got Spotless Crake, Banded Rail and Bittern in the area. Now there's reason to think that Fernbirds may be spreading up the coast towards the new home we are creating for them. That's reason to celebrate. 🐦





HEALTHY HABITAT: (clockwise, from left) Findlay Reserve planting from last winter is mostly thriving; a Banded Rail pays a visit; Skylark nest amid the vegetation. Photos / Ray Buckmaster

Findlay Reserve plants doing well as hot weather arrives

Most of the 11,000 native plants put on the Findlay Reserve six months ago are still in good condition as the challenge of the summer drought arrives and preparations are well underway for an even bigger planting later this year.

The plants from the first major planting on the Findlay Reserve six months ago are currently facing their greatest challenge – our hot, dry summer – and so far are surviving extremely well which, says project organiser Ray Buckmaster, is encouraging for the future.

That initial planting was done according to a cunning plan aimed at identifying the most appropriate species for the varied conditions found on the Reserve. These range from the relatively high and potentially dry ground to lower areas that favour the growth of the dreaded *Carex divisa*.

‘Since then,’ Ray says, ‘we have been closely monitoring progress so that by the time this year’s planting programme comes around we will have a lot more reliable data as to just what species to plant where. At the moment it looks as if we will lose a lot of Salt Marsh Ribbonwood, some of which we planted in the higher and drier areas, but we have also identified species that would be better suited to those locations. So, swings and roundabouts.’

Ray had been hoping for some decent rain early in the New Year but, unfortunately, the rainfall figures from Annie Wilson at Miranda Farm revealed that the downpours that gave a good drenching to Auckland and Hamilton largely missed

the Shorebird Coast. In addition, a recent NIWA report showed that over New Year soil water levels were generally lower than last year and much lower than the seasonal average so plants have been under stress. Still, Ray remains hopeful that because this is a La Nina year we might not continue into the drought conditions experienced last summer.

Work has been continuing on both the Reserve and the nursery on Miranda Farm but the point is approaching where Ray will be calling for a bit of extra volunteer input. If you’d like to help please send a note to annandrayb@gmail.com and ask to join the Friends of Findlay Reserve. You’ll get an occasional chatty newsletter and notification of any working bees.

One job coming up is weed control. Currently, Ray says, Fennel seedling growth in the planted areas is ‘largely under control but this time next year we will have twice the area to care for’. Fennel control has received an extra boost thanks to the spraying being carried out by Ken Brown, from the Department of Conservation, along the coastal strip.


There is also work to be done in the nursery which is producing double the quantity of plants this year which, as Ray points out, ‘means double the potting and

weeding. It’s manageable at the moment but we will probably call for volunteers to come to a nursery care day.

‘We are also part way through collecting seed to grow on for potential planting in 2022. Some species have been collected with others yet to come.’

Planting this year will be carried out from Queen’s Birthday Weekend, 6-7 June, until the end of the month. The main event will be over the weekend of 26-27 June. Before that small groups will be preparing the ground and doing specific planting. Details will be in the Friends newsletter.

All this has involved a lot of hard work but, as Ray points out, there are benefits. ‘It was thrilling to find a Skylark nest and to see a Banded Rail coming out from the mangrove fringe near the Stilt Hide.’

The project has also benefited from unexpected help from the local Black Swans. ‘We were carrying out an experiment to see whether the Oioi, or Jointed Wire Rush, could grow where no other species can, in the middle of the worst weed on the Reserve, the Divided Sedge. That study came to an end when the swans chose to roost in the study area and made a major impact on the sedge, flattening it, but not the Oioi. We were grateful for the help with the weed control.’ 

A chance to enjoy - and learn from - other conservation organisations

Chair **William Perry** takes up the challenge to see more of our own country by heading out to visit other eco-tourism venues, finds many delightful places and also picks up a few interesting ideas.



Well, what an unusual year that was! This time last year we were only vaguely aware of a new virus that was reported to be spreading from in Wuhan, China but we had no idea of the extent to which all our lives would be affected.

We are fortunate in Aotearoa New Zealand so far to have escaped the worst ravages of this pathogen thanks to an emphatic response from our national leaders, a secure border and a compliant populace.

At the time of writing, we have had 2,294 cases with 25 deaths attributed to Covid-19 and only 68 current active cases, most of which are in managed isolation or quarantine. By contrast the United Kingdom has now had 100,000 deaths attributed to Covid-19 and it is only the vaccination campaign that is likely to mitigate such a death rate. We don't know how lucky we are in this country.

One of the consequences of Covid-19 has been the dramatic reduction in visitors from overseas and we, the 'Team of Five Million', have been encouraged to become tourists in our own country.

This has created an opportunity to visit some other places that appeal to the eco-tourist and to compare what they do with our operation at the Shorebird Centre. The first impression is that we compare quite well. Our facilities generally provide a positive visitor experience both in the Centre itself and in the field. However, we can always improve and there are some ideas from other places that we can consider introducing at Pūkoro Mirānda.

For example, the water-free urinal. I have encountered this technology at the visitor centre at the Taiaroa Head albatross colony and on Tiritiri Matangi. Water is a perennial issue at the Shorebird Centre and we rarely get through a summer these days without having to call in the tanker and so any measure that we can adopt to reduce water consumption will help. There may be a reason that this technology is not suited to the Shorebird Centre, but it is worth considering and I



WORTH VISITING: Bushy Park's old homestead (above) and an inquisitive North Island Robin (at left).
Photos / William Perry

will put it on the PMNT Council agenda

Another place we visited late last year (Christmas Day actually) was Bushy Park, near Whanganui. What a fantastic place that is with its old wooden homestead converted into visitor accommodation and a mainland island predator-proof fence. All mammals have been excluded from the reserve, with the exceptions of humans and mice.


We were treated to fantastic views of Saddleback, Stitchbird and Robin on a short walk from the house and then enjoyed dinner around a table with other guests and the host. I am not necessarily suggesting this as a plan for the Shorebird Centre, but I do encourage you to visit Bushy Park and stay the night for a unique experience.

All decisions regarding the operation of the Shorebird Centre are carefully considered by the Council but we are not the only people with smart ideas. We welcome suggestions from our members and other visitors for any improvements that we can make to our facilities, in-

cluding the reserve, the hides, the board walks, the Centre itself and the welfare of the birds. We may not be able to implement all suggestions and we may not even approve some of them, but we are grateful for all your feedback.

'Keep the birds coming'. It does no harm to remind ourselves of the mantra that informs our activities around the Shorebird Centre at Pūkoro Mirānda. We are a Naturalists' Trust, and we are interested in all wildlife because life on Earth depends upon life on Earth, but our focus is clearly on migratory shorebirds.

In the last issue of *PM News*, I mentioned the possibility of an exchange of land as part of the new Tiaki Repokū Pūkoro Mirānda Reserve. We have not reached any conclusion on this matter and it remains on the table for a decision from the PMNT Council. Our deliberations continue and any announcement will have to wait for the next bulletin.

Meanwhile, make the most of Covid Alert Level One and enjoy your birding and other activities in Aotearoa. 

GODWIT TIMES

with Emma Salmon

Tēnā koutou

Ngā mihi o te tāu hou (Happy New Year) all you godwit fans. I hope you've all enjoyed your summer adventures. While you've been relaxing, I've been feeding like crazy to fatten up so I'm ready for my big trip back to the Arctic.

One of the birds my great-grandparents used to often see around the Findlay Reserve, where we like to rest while we're in Aotearoa, was the Mātātā. European settlers call it the Fernbird. Unfortunately over the years the dense vegetation they like to live in got cleared away. To make things worse their eggs and chicks got eaten by rats and Ferrets. Today we hardly ever see them and they are officially Declining.

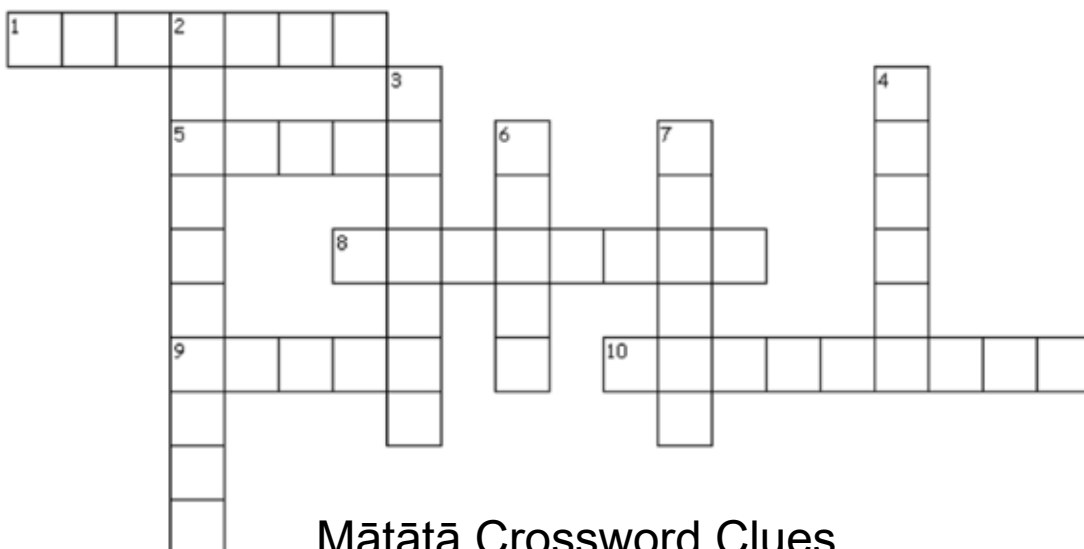
But the people at the Shorebird Centre are now working hard to attract them back. They are trapping animals like rats and Ferrets and planting shrubs like Ribbonwood and Mingimingiu which Mātātā like. How cool is that! That's a Mātātā in the photo. Cute, eh? You should keep an eye out for them.



Test your knowledge of the Mātātā in the crossword below. If you have problems answering questions have a look at the story on page 12 of the magazine or look up NZ Birds Online.

If you went on any cool birding adventures over summer, I would love you to send me a wee poem, story or a picture to info@shorebirds.org.nz. Put Godfrey Godwit in the subject line. Your adventure could be featured in the next Godwit Times!

Ngā mihi,
Godfrey



Mātātā Crossword Clues

Across

- 1 What common bird is about the same size as Mātātā?
- 5 What colour is a Mātātā?
- 8 What did European settlers call a Mātātā?
- 9 Describe a common Mātātā call.
- 10 What is the conservation status of Mātātā?

Down

- 2 Name a plant Mātātā like nesting in.
- 3 What do Mātātā mainly eat?
- 4 What was the status of Mātātā a hundred years ago?
- 6 What sort of vegetation do Mātātā like to live in?
- 7 Name a predator of the Mātātā.

Pūkoro-ro Miranda Naturalists' Trust



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Magazine

Pūkoro-ro Miranda Naturalists' Trust publishes *Pūkoro-ro 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.

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See the birds

Situated on the Firth of Thames between Kaiāua and the Miranda Hot Pools, the Pūkoro-ro 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 (Waitemāta) 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 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. Contact admin@shorebirds.org.nz for further information.

Bequests

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

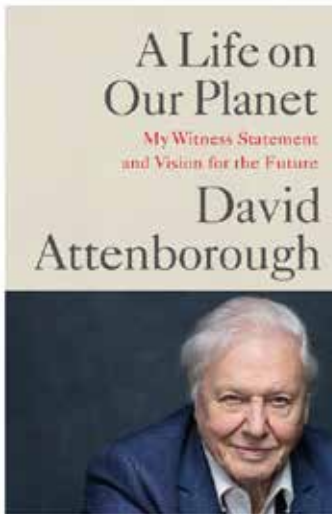
Become a Volunteer

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 Anne at the Centre to see what will best suit you.

PMNT's work is made possible by the generous support of our sponsors



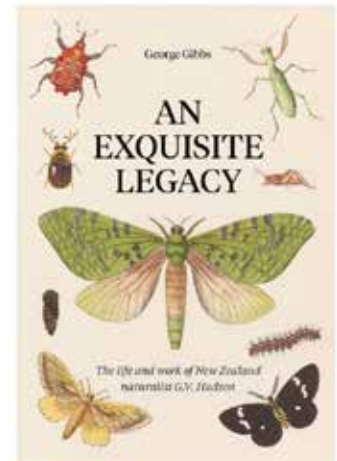
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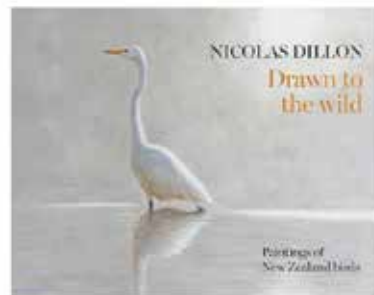
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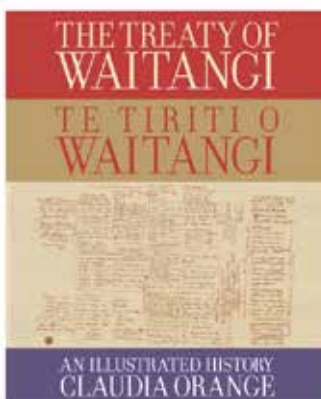
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The Shorebird Centre shop is open for business every day except Christmas Day. If you can't get down to Pūkorokoro Miranda you can buy through the online shop at <https://shop.miranda-shorebird.org.nz/>, email to shop@shorebirds.org.nz or ring 09 232 2781.