

Help us build a new Manager's Roost

PMNT is launching an appeal to raise \$350,000 to replace the existing manager's cottage which is past its use-by date, wouldn't meet the current building code and fails to comply with the new rules for rental accommodation.

This month's Council meeting accepted a recommendation from the Building Committee that rather than carrying out extensive and costly maintenance it would be more sensible to get a replacement house.

The building was already quite old when in 1998 the Trust solved the problem of manager Keith Woodley having to live in one of the accommodation units at the Shorebird Centre by buying the adjoining block of land with its existing farm cottage.

Since then it has required regular working bees to keep it up to a reasonable standard and Committee chair Ann Buckmaster said normal wear and tear, plus the recently enacted rules for insulation and heating in rental housing, meant another major effort was required.

But, although the cottage was quite sound and Keith was still comfortable living there, she suggested it would be a better investment to put the money into a new, properly insulated building which would 'future proof' the manager's accommodation.

'At some stage,' she pointed out,
'Keith is going to retire and we will need
to have accommodation suitable for a
replacement who may be married with
children and will require something
more than a one-bedroom cottage.'

It would also be extremely useful if the new building could include a separate unit which could be used to provide temporary accommodation for the Summer Shore Guide, visiting researchers, temporary staff, etc. As well as providing greater privacy this would also avoid having the Centre's accommodation space unavailable for hire to the public for long periods.

After examining several options the Committee decided the best choice was a slightly modified Keith Hay Homes design which could easily be transformed into a three bedroom manager's house and a stand-alone one-bedroom unit with a bathroom and



TIME FOR A CHANGE: The proposed new cottage (above) and the existing one (below).

Photos / Keith Hay homes, Jim Eagles



How to donate

If you'd like to donate to the Manager's Roost appeal please:

•Pay the money directly into the Shorebird Centre bank account, 02-0290-0056853-000, and put Manager's Roost in the details.

•Send a cheque to the Shorebird Centre at 283 East Coast Road, RD3, Pokeno, New Zealand 2473.

•Go to www.miranda-shorebird. org.nz/themanagersroost, or click the Manager's Roost button on our website, and donate via PayPal.

All donations will be acknowledged with a receipt and the Trust will be sending out regular updates on how it is progressing.

kitchenette.

If Hauraki District Council agrees, the plan is to put the new house adjacent to the old cottage, rather than on the same site, to allow Keith to transfer directly over rather than having to use temporary accommodation and put his belongings into storage.

Ann said the estimate for getting

the necessary engineering reports and consents, putting the house on-site and hooking it up to revamped septic tank and water system, as well as raising it high enough to be safe from any flooding or storm surges, was around \$350,000. However, if fundraising fell short of that there were other cheaper and less ideal options that could be looked at.

The Trust already has \$40,000 from two large donations made specifically for building work with which to launch the appeal.

As well as appealing to members, the Trust will be seeking support from the many other people, including those who receive the Centre's popular *Pūkorokoro Miranda eNEWS*, for donations.

Fundraiser Alister Harlow is also looking at approaches to funding organisations that might be willing to help the project but warned that most such bodies did not fund staff accommodation.

Progress in the appeal will be updated regularly on the Centre's website, on Facebook and in eNEWS bulletins.

COVER: Ray and Ann Buckmaster get busy potting plants in the new restoration nursery with the shadehouse behind them. Photo by Jim Eagles

Accommodation units get a glossy upgrade

A huge amount of work has been done at the Shorebird Centre and Findlay Reserve in recent months.

The most dramatic development at the Centre is the remodeling of the bathrooms in the two self-contained accommodation units which have been transformed from being dark, dingy and awkward to use into light, airy, modern facilities.

That project was organized by Ann Buckmaster and funded by a \$17,206 grant from the Chisholm Whitney Trust. Adrian Riegen did the building helped by a small team of volunteers while Ann and Ray Buckmaster did the painting.

The start of the bathroom project coincided with the working bee traditionally held in conjunction with the mid-winter pot luck dinner and organised by centre assistant Chelsea Ralls. In spite of an ominous weather forecast about 40 dedicated volunteers turned up and did a huge amount of work tidying the grounds, spring cleaning the shed, clearing rubbish from the roadside and filling-in potholes in the driveways and at the Reserve carpark. Participants were rewarded for their hard work when three Far Eastern Curlews made a timely appearance in front of the Godwit Hide later in the afternoon.

In addition, the water pumps previously sitting under the Centre have been moved to higher ground, a fault in one pump has been fixed, the filters have been replaced, a leak which caused the tanks to empty last summer has been fixed and the submersible pump replaced.

Chelsea also organised three expeditions out to the shellbank in front of the hides to clear away foliage ready for the arrival of the Arctic migrants. During the third expedition some particularly brave volunteers crawled into the mud for the annual removal of mangroves seedlings from the bay in front of the Godwit Hide.

Good value

Following the upgrading of the bathrooms the Trust has increased the rent for the two self-contained units to \$90 for members and \$130 for non-members.

Distinguished visitors

The Trust has followed up the highly successful official visit by Prime Minister Jacinda Ardern (reported in *PM News 113*) by inviting her to come again on a private visit, perhaps with her family, to see the birds. Manager Keith Woodley has

also provided the Prime Minister's Office with some briefing notes to facilitate the Prime Minister's promise to put shore-birds on the agenda for future bi-lateral meetings with China.

There has also been a visit by the new

deputy-director general of operations for DOC, Mike Slater, who has not been to the Centre before.

Welcome to the Shorebird Coast

It seems as though the misnamed Seabird



POLISHED: Ray and Ann Buckmaster put the finishing touch to one of the new showers in the gleaming new bathrooms at the Centre. Photo / Jim Eagles

What's on at the Shorebird Centre

Now until the end of summer

Guided birdwatching at the Findlay Reserve. Summer Shoreguide Amanda Hunt and her helpers will be at the hides with spotting scopes two hours before and after high tide to point out shorebirds and tell their stories.

24 November

1pm Mountains-to-the-Sea Restoration Project Open Day. Environmental event organised by the Western Firth Catchment Group at the Miranda Farm Shop Cafe to promote efforts to restore the local catchment.

1 December

Birds New Zealand Wader Census. Contact the Centre for details.

16 March

Migration Day

Coast – which for some time has been a sore point with the Centre – is about to become the Shorebird Coast.

After discussions with Keith, the CEO of the Hauraki Rail Trail Charitable Trust, Diane Drummond, was convinced that the birds for which the area is famous are, in fact, shorebirds. As a result, publicity and signage over the extension of the cycle trail to Kaiaua will refer only to the Shorebird Coast. That has already had an effect. A feature on the trail in the Hauraki Herald included a map showing the Shorebird Coast. In addition, the chair of the Kaiaua Citizens and Ratepayers Association, Lynton Campbell, wrote an article for the Kaiaua Compass explaining the reasons for the change, which seem to have been accepted by the community.

On your bike

We've been waiting a long time for construction of the final 10km of the Kopu to Kaiaua leg of the Hauraki Rail Trail to get underway but it seems work will indeed start any day now. Both Hauraki District Council and the Rail Trail Trust are con-

fident the trail will be largely completed by April next year. However, the stretch between the hides and the Centre will be delayed to avoid disturbing the area where bitterns have nested and allow time for a study of reptile populations. In addition, work is planned to start in April on a planned parking, freedom camping, picnic spot and toilet stop at the end of the trail just north of Kaiaua, adjacent to the statue of a giant oystercatcher.

Welcome back

Last season's outstanding Summer Shore Guide, Amanda Hunt, is back again. Visitors to the hides are now able to enjoy her lively commentary on the birds and able to use her scopes to get a better view. Amanda will probably be on duty until the end of April. She is keen to catch up with her namesake, Amanda the Kuriri, named in recognition of a huge contribution to the Pacific Golden Plover Project.

Critter of the Week

The Pacific Golden Plover was Critter of the Week on Radio New Zealand's

Afternoons With Jessie Mulligan on 18 October. DOC's threatened species ambassador Nicola Toki talked enthusiastically about the birds and the work done by the Shorebird Centre. The programme is on the Radio NZ website.

Tauranga Flock

The Flock concept once again proved a great way to teach children about the environment and involve parents and grandparents when around 2000 painted shorebirds landed on Memorial Park in Tauranga during Conservation Week.

Educator Alex Eagles-Tully and a small team of helpers planted birds painted by pupils from Kaiaua, Kopuarahi, Waitakaruru, Netherton, Hauraki, Oropi, Aquinas College and Tauranga Intermediate schools on the shore of the Tauranga Harbour. In addition, there were birds by VIPs such as Prime Minister Jacinda Ardern and Conservation Minister Eugenie Sage.

Over 1000 people visited the display, with numbers growing steadily during the week as word spread. An online article in *The Sun* gave a particular boost so the



Positive signs

Visitors to the Findlay Reserve are now guided by some superb new signs. They were designed by Council member Trudy Lane and paid for by a \$5000 grant from the Len Reynolds Trust. (Clockwise, from top left) The welcoming sign on the entrance gate; Trudy Lane helps install a sign on the path to the hides; pupils from Moanataiari show their enthusiastic approval. Photos / Keith Woodley, Alex Eagles-Tully







final weekend was definitely the busiest. In the nine days more than 100 birds were painted by enthusiastic children (and a few adults). Dozens of Year of the Wrybill stickers were given out and most recipients promised to vote for the Wrybill in the Bird of the Year competition. A grant from Tauranga District Council covered most costs and paints were donated by Resene, so payments for birds and donations meant it made a small profit.

During term 3 Alex was also was also busy with school visits. Ruma Pohutukawa of Te Puru School, which has a special interest in shorebirds because of the NZ Dotterel nesting on the beach which serves as part of their playground, particularly enjoyed the Migration Game in which students act out the Kuaka's journey from New Zealand to Alaska while trying to avoid predators. There were five classes from Moanataiari School, who had some great birdwatching and were fascinated by the antics of the crabs, plus outreach sessions at Te Puru School, Tauranga Intermediate and Aquinas College.

This term there has been a visit from Waitakaruru School and there are bookings from a Home School group, Mercury Bay Area School and Richmond School.

Also on the education front, Chelsea created a birds and banding interactive session at an Enviroschools Conservation Week event held at Kauaeranga Valley and attended by over 100 students from 12 schools in the Thames-Coromandel, Hauraki and Matamata Piako districts. Chelsea joined local experts in geckos, predator control, stream life, kauri and kiwi and her shorebird activity was voted one of the best by the participants.





MADE FUN: (from top) aerial view of the Tauranga Flock and (inset) photos of young artists who came to paint birds; young Riley was delighted to meet her namesake Riley Wrybill; pupils of Moanataiari School were very excited to see crabs and especially (inset) one in berry; keen young birdwatchers. Photos / Liam Tully, Alex Eagles-Tully, Jim Eagles







TEAM WRYBILL: (from left) Environment Canterbury chairwoman Jenny Hughey, Christchurch Mayor Lianne Dalziel and Canterbury medical officer of health Alistair Humphrey show their support for the Wrybill; videographer Johan Kok, educator Alex Eagles-Tully with Kaiaua School pupils who starred in the Wrybill video.

Photos / Johan Kok, Stuff

Wrybill wins new fans around the world

Our joint campaign with Braided River Aid may not have succeeded in getting the Wrybill/Ngutupare voted as Bird of the Year but it certainly raised the profile of the only bird in the world with a sideways twisted beak as well as that of all the other birds which breed on the South Island's braided rivers.

As you've probably heard, the Hoiho or Yellow-eyed Penguin just pipped the Kākāpō to become the first seabird to win the title. The good news from our perspective is that one of the braided river birds we were promoting, the Banded Dotterel or Tūtutiwhatu, came third in terms of first choice votes, or fourth under the single transferable vote system introduced this year.

The Wrybill was 18th out of the 85 birds with a slightly disappointing 671 votes – possibly the complexity of the voting system put people off – but that was still a big improvement on last year when it was 42nd of 61 birds with 213 votes.

Campaign manager Keith Woodley said the Wrybill had run as the poster bird for braided rivers and that message had reached several thousand people, even if not many had voted, and in the process had greatly increased knowledge of the rivers' importance as habitat. 'We need to look after those rivers to secure a future not only for Wrybill, but for other river birds – Kāki/Black Stilt, Tarapirohe/Black-fronted Tern, Tarapuka/Black-billed Gull, and Pohowera/Banded Dotterel.'

The message was initially distributed worldwide via emails to 3500 birders and birding organisations and then spread further via social media, the Tauranga Flock event, our Welcome to the Birds and another welcome at Bayswater in Auckland.

There were several highlights. Ann Buckmaster did an amazing job promoting the Wrybill on Facebook and in the process took the number of followers up to 3815. During the campaign period there was a huge jump in interest with a 76% increase in views, a 284% increase video in views, a 75% increase in page likes and a 275% increase in the number of views for each post.

Johan Kok's Flung Scarf of Wrybill video, featuring the birds performing their aerial ballet to the music written for us by the Auckland Philharmonia Orchestra's Young Composer of the Year Kirsten Strom, topped the viewing numbers with 8262.

A delightful little competition, in which viewers were invited to find camouflaged Wybills in photos of the river bed, with the photos posted again a few days later with the birds highlighted

in red, attracted 7038 views.

Johan and educator Alex Eagles-Tully also produced a lovely short video showing pupils from Kaiaua School explaining why the Wrybill should be voted as Bird of the Year which got 6547 views. The *Kaiaia Compass* community newsletter ran an article asking locals to support the campaign.

Alex also put a huge effort into her Bird Educator Twitter account which attracted lots of feedback. Her greatest success came when actor Sam Neil, who is very active on Twitter and has 322,000 followers, came out in support of the Wrybill. In response to a query from Alex he tweeted, 'Love Wrybills. Yes. I almost stood on one fishing once. Miracle. Please. I'm voting Wrybill #BirdOfTheYear.' After Sam retweeted the video of the Kaiaua School children it shot up to nearly 7000 views on Twitter. In other words some 14,000 people saw it on social media, which is pretty exciting for such a tiny school.

The Flung Scarf of Wrybill video, which had the Kaiaua School appeal at the end, was also distributed by the APO via social media and to its partnership schools and other organisations.

This attracted an unexpected response from David Sutherland, of Whoa Studios, which works with TVNZ and the APO among others, saying 'it's lovely to see kids getting engaged'. David invited the pupils to visit the studios next year for a free pre-launch performance of a new live show, My Little Sister, which features a young hero Kea from a TVNZ on-demand show, Custard's World, as he fends off attacks from larger than life stage characters symbolising Rats, Stoats and Possums. Alex will be working with David and the school to make this happen.

The Wrybill's cause got another boost when three of Canterbury's civic leaders, Environment Canterbury chairwoman Jenny Hughey, Christchurch Mayor Lianne Dalziel and Canterbury medical officer of health Alistair Humphrey joined together to call on Cantabrians to vote for it as Bird of the Year. In a joint statement they said 'the Wrybill could easily win Bird of the Year if every Cantabrian voted for it. [That]] would bring attention to the vulnerability of Canterbury's freshwater environment.'

The three dignatories even posed in front of the Christchurch City Council headquarters with a giant Wrybill – made a few years ago by Ann Buckmaster – to illustrate their support which attracted plenty of publicity.



TOP TRIO: Three Far Eastern Curlew have been familiar sights at the hides this year.

Photo / Philip Moll

New season brings an impressive line-up of species

For several weeks in October, the local Kotuku would come almost daily to roost for a few hours on the edge of Widgery Lake. There it would sit in view of the Sibson Room, often partly obscured behind towering oioi, a gleaming white patch of something visible to visitors: "Is that a plastic bag?" asked several. Which set me reflecting on the names we give this bird.

The Great White Egret is a cosmopolitan species found in many parts of the world. Known in this country as White Heron, the small population of birds breeding at Okarito, disperse all around the country. For Maori they are Kotuku, something rare and sacred, a special distinction that appears to resonate among most New Zealanders. So a plastic bag? Surely that particular item is not on its way to being seen as rare and special now that supermarkets no longer supply them?

The line up of species recorded at Pūkorokoro recently has been rather impressive. Throughout the year three Far Eastern Curlews and at least two Whimbrels were visible from the Godwit Hide. New season's arrivals include a Marsh Sandpiper, a Curlew Sandpiper, several Sharp-tailed Sandpipers, at least six Turnstones and four Red-necked Stints.

There was also a small sandpiper that had many people puzzled. It has the long heavy bill of a Broad-billed Sandpiper but some felt it lacked the double-supercilium (which gives the crown a striped appearance) that is diagnostic for this species. However, consensus seems to be building that it is in fact a Broad-billed. In late October there was one record of a Terek Sandpiper, a report I consider to be a reliable though the bird has not been seen since. They are difficult to mistake for anything else, so if it turns up anywhere else it is likely to be recorded. This sighting is particularly interesting because back in the 1990s we annually hosted at least one or two, but they have not been seen on

the Firth for at least 16 years. Meanwhile a Hudsonian Godwit has been regularly seen among the flocks at the Piako roost.

It would appear to have been a very good breeding year for Alaskan godwits, with large numbers of juveniles seen around the country. At Foxton Beach Phil Battley reported the several hundred juveniles present outnumbered adults.

The number of juveniles was good news for the team that gathered at the Shorebird Centre in late October to fit some with Argos trackers. Even better was the outcome of mist netting operations over three nights: 20 adults (the target number) caught and fitted with devices along with seven juveniles. This is part of a long-term project led by Phil Battley to learn more about juvenile movements and eventual migrations.

The presence of the project team also led to another in the series of classic Miranda encounters. A couple of birders walked through the front door. Pete Myers introduced himself and said he worked with shorebirds in Alaska in the late 1970s. 'Which species,' I asked? 'Pectoral Sandpipers on the North Slope, he replied. 'Are you familiar with the work of Bart Kampenaars,' I asked, mentioning a co-author of The Exploding Lek, which documented colossal movements of male sandpipers along the Arctic coast after migrating up from the Southern Hemisphere. 'Yes,' he said. 'Would you like to meet him?' We walked down the room where Kampenaars, who is currently based at the Max Planck Institute in Germany, was sitting with other project team members.

Kuriri (of which more elsewhere) continue to generate interest and at the time of writing 33 have arrived.

Beside the power pole near the cottage there grows a coprosma – perhaps three to four metres high. Walking past it one day I was startled by a loud rattling eruption. Immediate thought was some disastrous malfunction of the transformer on the pole. Then the true cause revealed itself: a cock pheasant that had been roosting on top of the coprosma demonstrating he was just as startled. **Keith Woodley**

Recent sightings at Pūkorokoro

Arctic Migrants

4600 Bar-tailed Godwit 2000 Red Knot

33 Pacific Golden Plover

3 Far-eastern Curlew

2 Turnstone

3 Whimbrel

1 Curlew Sandpiper

1 Marsh Sandpiper

1 Red-necked Stint

1 Terek Sandpiper

Therein Samapiper

1 Chestnut-breasted shelduck

1 Broad-billed Sandpiper

New Zealand species

780 SI Pied Oystercatcher

1100 Black-billed Gull

200 Wrybill

52 Royal Spoonbill

20 Caspian Tern

8 Variable Oystercatcher

8 NZ Dotterel

1 Kotuku

Australasian Shoveler, Banded Rail, Hybrid Black Stilt, Pied Stilt, White Fronted Tern



ISLAND TIME: JoJo's stopover places during his journey down the Pacific Ocean (from left) Teraina in Kiribati and Tongatapu in Tonga.

Birders across the Pacific keep an eye out for Kuriri wearing bling

Birders across the Pacific and around the New Zealand coast are watching for any sign of the three Kuriri we fitted with bands and satellite tags last summer, reports **Jim Eagles**. At least one of the birds, JoJo, appears to be closing in on a return to New Zealand, having flown 10,000km from Alaska via Teraina in Kiribati to the main Tongan island of Tongatapu, where he is just a hop, step and a jump from the Firth of Thames. Unfortunately the satellite tags on Wee Jimmy and Amanda appear to have died but, there's no reason to think they are not heading this way too.

PMNT's Pacific Golden Plover tracking project continues to provide lots of intriguing information about these enigmatic birds and the signs are there's plenty more still to come.

As you may recall, when the August issue of *PMNews* went to press, Amanda and JoJo were happily nesting on the Yukon Kuskokwim Delta and hopefully raising chicks, while Wee Jimmy was about 500km further north near Lake Selawik, having got there via Siberia, arriving too late to breed.

At the end of August the tags moved to a more frequent reporting phase and Wee Jimmy celebrated by flying down to join his fellow Kuriri on the delta. We celebrated, too, because all three tags reported and showed the birds were moving around and, before long, shifting further south in preparation for the great southward migration.

But that wasn't enough excitement for Jimmy because she (remember we now realise Jim is a female and JoJo is a male) promptly embarked on a 500km flight to one of the Aleutian Islands which extend south west from Alaska. Was she leaving early for New Zealand? No. A few days later she flew back to the delta and found a new roost on a bar in the Ningliq River. Our satellite tracking expert Lee Tibbitts of the US Geological Survey's Alaska

Science Centre, commented, 'We've had other tagged shorebirds move around southwest Alaska before migration. Fun to see. She must be full of energy.'

Then on 14 September Lee reported that JoJo and Wee Jimmy were still on the delta but there was no signal from Amanda's tag. That could be bad news. Or it could mean that Amanda – who was the first of our trio to leave Pūkorokoro back in April – had already departed.

At the same time Tony Habraken confirmed that PGP migration was underway with a report of new arrivals on the Manukau Harbour: 'Two PGPs at Karaka, one in a state of anorexia it was sooo thin; bright and well all the same.'

A couple of days later Keith Woodley heard a Kuriri call at Pūkorokoro and on



BIRDING STARS: Kiribati puts PGPs on its postage stamps.

21 September Tony went out on the shell-bank and saw two birds which didn't look like fresh arrivals. The following day Tony was reporting again. 'Total PGPs seen today was eight, so another six arrived in the last 24 hours, no signs of stress in these birds. No bands either.' At the same time David Lawrie spotted three PGPs at Kidd's on the Manukau 'but too far away to get any details.' So Kuriri numbers were starting to build up. But where were our trio?

On 22 September Lee sent a slightly disappointing report. 'Hmmm. Didn't hear from any of the plovers this time around. Could mean a few things: the batteries have run out; or the tags are shed/dead; or the birds are migrating and they are nearer the equator where the Argos satellite coverage is very scarce. We'll know more over the next few days.'

But the very next day she had the exciting news that JoJo was already more than halfway back to New Zealand. 'Looks like the bird departed soon after its last Alaska location on 14 September. First inflight location two days later at about 3250km away means the bird flew that leg quite fast (around 70 kph). Now he has stopped over at Teraina in Kiribati in what looks like really interesting habitat.' The habitat in question was a swamp in the middle of the island.

The following week there was no

news from the tags but on 7 October Lee reported, 'We heard from Jojo today and he is still on Teraina Island. Not a lot of info was transmitted during the overpass but enough to show he has been there since last report.'

Another signal was received on the 15th indicating JoJo was still there. However, Lee's accompanying analysis added worryingly, 'It is impossible to say from the locations whether the bird is moving. Positive sign is that it is still transmitting so must be in a position with antenna towards the sky. That said, I would have expected to see more movement if this tag was on a bird.' Happily, JoJo kept transmitting, with more messages on the 19th and 25th, all from Tereina, and some indicating that he was indeed moving around.

In the meantime, the amazing global birding network put Jim Eagles in touch with Ratita Bebe from the Kiribati Government's Environment and Conservation Division, who was very interested. Ratita asked for a photo of Wee Jimmy to help with identification, and said she would try to get in touch with the Teraina Island Council Clerk to assist. Unfortunately, it seems inter-island communication can be tricky, because she wasn't able to get a response. However, she did confirm that PGPs are well known in Kiribati, have even appeared on a postage stamp and are known as Te Kun.

There was still no news from Wee Jimmy or Amanda. For a while we hoped this was due to them also taking a break on an island in the satellite doldrums but that was looking less and less likely. As Lee noted, 'The . . . tags might have run out of battery life by now.' With JoJo seeming settled on Teraina and the other tags not reporting it was starting to look as we might not be able to track any of our birds back to the Firth of Thames.

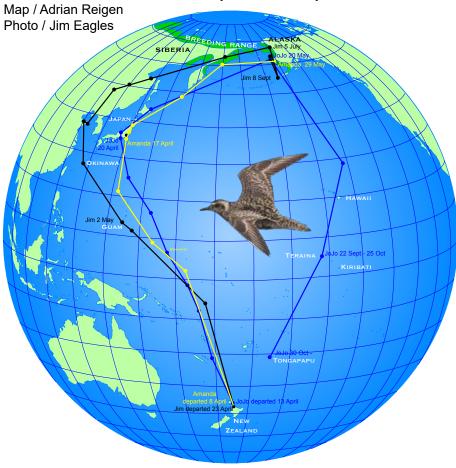
I consoled myself by remembering the outcome of world expert Wally Johnson's project to track PGPs from Moorea in 2017-18. Of 20 birds tagged in Moorea only 13 uploaded locations during the northward migration and only nine were tracked as far as Arctic breeding grounds.

'Thereafter,' Wally said in the summary of his paper on the project, 'and for unknown reasons, contact with tags was intermittent and gradually lost. We received signals from only one individual during autumn migration, and that bird flew over 8,500km directly southward from its post-breeding site in southwest Alaska and made landfall in Samoa where transmissions ended.'

So, looking on the bright side, our



GOOD VALUE: (above)The tag fitted to JoJo by Wally Johnson and Mike Weber, lasted the longest of the three; (below) the flight paths of our Kuriri with the dark blue line of JoJo already most of the way back to New Zealand.



project had actually been rather lucky to get as much information as we did from just three birds. And there was still hope we might learn more.

Given the possibility that Wee Jimmy and Amanda might be on another Pacific island we did our best to get local birders to keep an eye out for Kuriri. Rachel Hufton, a former Summer Shoreguide, was in

Tonga on holiday and saw six PGPs there but found none with bands or tags.

JoJo the human tracked down keen birders in places like Midway Atoll and Norfolk Island who promised to keep a lookout. Our international liaison representative David Lawrie also kept in touch with his global network.

Meanwhile back in New Zealand,









KURIRI CATCHERS: This season's effort to catch seven of those elusive Pacific Golden Plovers and fit them with satellite tags will once again be assisted by a team from Brigham Young University - Hawaii which has caught dozens of these birds in many part of the Pacific. This year the team will be led by senior academics Mike Weber and Dave Bybee who came last time. Also returning will be student Emma Houghton, who is using the information from the tags to write a paper on: 'What types of habitat features and location conditions do Pacific Golden Plovers frequent at spring stopover sites in Japan? How do these conditions vary from their wintering territories in the Pacific and breeding territories in Alaska/Siberia?' They will be joined by a new student, Tanner Smith, who is in the senior year of the BYU-Hawaii Biology programme, and is also a research assistant for the animal behaviour class. Tanner is planning on continuing his education in a Masters programme next year and eventually hopes to gain a PhD and become a research scientist. Unfortunately the lead scientist on the project, the world authority on PGPs, Wally Johnson from Montana State University, won't be able to come due to health issues though he'll be following progress closely. The team of plover-catchers from Brigham Young University-Hawaii will arrive on 24 November and leave on the 30th, a period of good tides for catching, and our main effort will be done then.

observers were starting to provide reports of more PGPs arriving. On 25 September Keith Woodley spent much of the day at the hides and picked out 11 PGPs among the big flock of godwits. By 2 October Ken Wedgwood counted 16 at the Limeworks. On the 23rd Summer Shoreguide Amanda Hunt reported 21 plus eight at Piako. By the 29th David Thomas counted 29 at the Limeworks. None had tags or bands but there was still plenty of time for something to happen. And suddenly it did.

On 2 November Lee sent an email with a subject line of 'woohoo' which told us, 'JoJo is headed your way. Looks like he departed Teraina on 25 October and now is stopping over on Tongatapu Island in Tonga. But, I bet he is headed to Miranda just because he is making a beeline that way! Very cool. I suppose he was waiting for the real JoJo to travel with.'

As it happened, 'the real JoJo', JoJo Doyle, who coordinates the volunteer monitoring programme for the project, was indeed en route from her home in Vermont to Pūkorokoro, and had also run into headwinds. She sent an excited email from Los Angeles saying, 'Just got the news. Hurray for that transmitter! . . . I hope he watches his luggage. My train was five hours late into LA arriving 2am. Caught the airport bus from the train station at 3am only to have the bus drop me off and drive away with my luggage! Yes,

I finally got it, and to my hotel, at 5:30am.'

When JoJo reached the Shorebird Centre after her long flight nothing would do but to drive down to the Piako roost, where JoJo the Kuriri had hung out for most of last summer, to have a look. She didn't spot any bling but did see several Kuriri

Meanwhile back in Tonga, the new satellite report had shown JoJo landing just south of Fua'amotu International Airport, then moving a short distance east to some fields of crops. Jim managed to track down some birders in Tonga who went to look for the visiting Kuriri but unfortunately saw none wearing jewellery. Then we got another satellite report showing JoJo had moved back to his original landing site near the airport.

Shortly afterwards the winds, which had been unfavourable, turned just right for a flight from Tonga to New Zealand, but so far there has been no sign of any birds with tags or aerials among the 33 PGPs at Pūkorokoro or the 21 at Piako in the latest count.

Still, hopefully we'll get a report of at least one of them being sighted in New Zealand before long but, regardless, we've already learned a huge amount.

For instance, JoJo's route was really interesting. From Alaska he flew over the top of the Hawaiian islands on to Kiribati; then along a track taking him over

a string of islands including the Samoas and northern Tonga to Tongatapu; and from there he had southern Tonga, Raoul Island and the Kermadecs as possible stopping off points if he does the final 2000km to New Zealand. It was a route designed to give him regular stopping off points should the winds become adverse ... as they did.

Plus, of course, we still intend finding out more. The plan this summer is to try catching much earlier than last season when we started netting in February . . . and a few days earlier the birds suddenly changed their previously fairly regular pattern of behaviour. This time we're planning to start catching the last week in November when hopefully they will again be more predictable. We might even be able to cannon-net on the sarcocornia where the Kuriri are currently spending a lot of time hanging out at high tide as they initially did last season.

Our lead bander Adrian Riegen will be away for much of December and January but, if we're still short of the seven kuriri we'd like to tag, Gillian Vaughan and Tony Habraken have kindly agreed to try some further mist-netting on convenient weekends when the tides are right. If we still have tags unused by mid-January we'll probably switch to catching Red Knots and putting the tags on them for Phil Battley's on-going research work.



CHANGING HABITAT: What effect will warming of the Arctic have on Kuriri breeding behaviour? Photo / Wally Johnson

Why are 60% fewer Kuriri coming to NZ?

PMNT's Pacific Golden Plover tracking project has provided lots of clues - though as yet no definitive answers - to the steep decline in the number of these birds spending the Arctic winter on our shores, writes **Jim Eagles**.

Our Pacific Golden Plover project has so far been huge fun, and lots of people around the world have greatly enjoyed the adventures of Wee Jimmy, JoJo and Amanda. But there was, of course, a very serious purpose behind it all.

As a new paper Adrian Riegen has co-written for publication in *Notornis* points out, the average number of Kuriri recorded in Birds NZ's annual nationwide summer shorebird count in 1983-1994 was 466, and the average during 2005-2015 was 185, representing a 60% decline.

That's a massive drop. But why is it happening? We have no idea. The work PMNT has done on Bar-tailed Godwits and Red Knots suggests the problem is likely to be found at the stopover points along the migration routes. But until our three Kuriri set out with their tags we didn't know what routes their migration journeys took, where they stopped over or, for that matter, where they bred.

Certainly, three tracked birds birds is a rather small sample – something we hope to rectify this summer – but now we do know that at least some Kuriri stopover in Japan during the northbound leg of their migration, they breed in the Yukon Kuskokwim Delta in Alaska and then they fly south down the middle of the Pacific. So does that help us begin to find out why their numbers are declining? I think so. But there are many possible explanations for the decline, none of which are mutually exclusive, and it's far too early in our project to be sure which are the key factors.

After discussing the issue with scientists like Wally Johnson, Lee Tibbitts and Dan Ruthrauf, and knowledgeable birders like Adrian Riegen and Tony Habraken, I've heard many possible causes advanced. They include:

• Pacific Golden Plover numbers might be falling across their entire vast range which embraces almost the whole of the mighty Pacific Ocean.

That's almost certainly true. The International Union for the Conservation of Nature says PGP numbers are declining generally but because the population is so large – most estimates put it around 190,000-250,000 – it rates the species as Of Least Concern. Since New Zealand is at the extreme end of the PGP's range, it

would not be surprising if the impact of a general decline was felt most strongly here. Unfortunately, it's a hypothesis which is pretty much impossible to examine because of the size of the birds' range and the fact that New Zealand is one of the very few places to conduct a consistent census.

•Early counts in New Zealand may have been inaccurate or, alternatively, the later ones may be missing birds.

Adrian, who coordinates the census data, thinks that's unlikely. 'The counts from the 1980s to today have been pretty consistent,' he says, 'and they're mostly still being done by the same old people (who were of course young at the start).' It's certainly true that PGPs are willing to use new roosts – as witness the number which moved from Pūkorokoro to the flooded paddock near the Piako River mouth last summer – but we do usually find them, as happened on that occasion.

• PGP nesting habitat in the Arctic has become less suitable so fewer chicks are being raised.

Clearly the impact of climate change means that is likely to be the case in future



DIFFERENT BIRDS: Pacific Golden Plovers in suburban Hawaii (at left) defending their patch and (at right) being fed by a well-trained human.

Photos / Wally Johnson

and, indeed, is probably already starting to happen. A recent study entitled Rapid climate-driven loss of breeding habitat for Arctic migratory birds published in Global Change Biology concluded, 'We show that climatically suitable breeding conditions could shift, contract and decline over the next 70 years, with 66-83% of species losing the majority of currently suitable area. . . Given that already there are rapid declines of many populations of Arctic migratory birds, our results emphasize the urgency of mitigating climate change and protecting Arctic biodiversity.' However, that is a current and future issue, not one that explains population declines going back 30-40 years. Wally, who has studied PGPs in the Arctic for 40 years, says he knows of nothing which would point to breeding issues in the Arctic in the past few decades. Though, as he adds, the future 'looks rather bleak!'

•New habitats are appearing in islands to the north of New Zealand so that the birds no longer need to fly all the way here to find somewhere to spend the Arctic winter.

I discussed this with Dan Ruthrauf, from the USGS shorebird team, while I was in Anchorage earlier this year. I was quite excited about the idea that a huge reduction in the area of rice paddies in Japan might be an important factor in our falling Kuriri numbers (more on this later). Dan

thought the decline was more likely due to Pacific islands north of us creating golf courses, farms and subdivisions, where PGP can roost; whereas before they were covered in tropical jungle, which doesn't suit them.

So, on this theory, 20-30 years ago many PGPs - especially juveniles, which migrate later than the adults - would find all the suitable areas north of New Zealand already occupied. We certainly know from Wally's work that PGPs in places like the Hawaiian islands are generally site-loyal and fiercely protective of their patches. Indeed, many suburban homes have their own Kolea - their Hawaiian name - which return every year and become quite friendly with their humans. As a result, the juveniles and other latecomers had to keep flying and ended up in New Zealand where there was always lots of room on the mudflats.

But, Dan argues, as the islands north of here are cleared of jungle, migrating birds that would once have visited us can find unoccupied roosting sites much closer to the Arctic, so sensibly cut their journeys short. When I got home I mentioned this idea to Adrian who commented that the only way we could prove this it if one of our birds followed that pattern. Well, maybe JoJo has done exactly that. His stay on Teraina turned out to be for only a month but it's possible he may spend

our summer in Tongatapu. Time will tell whether he's providing early confirmation of Dan's theory.

Incidentally, I wonder if this also explains why our Kuriri are so much more wary than those elsewhere in the Pacific. On other Pacific islands, it seems they basically live alone, each with their own fiercely defended patch, and if those patches are on golf courses, suburban gardens, parks or even traffic islands, they get used to humans being around. But here the open spaces are so extensive that they don't need to compete for space, they form flocks – though still usually stand a couple of metres apart – and only see humans at a distance so never lose their wariness.

•Non-breeding habitat in New Zealand is less attractive than it used to be due to reduced prey abundance or increased competition with other species.

On the basis of his own observations Adrian thinks that is unlikely. The steady decline in numbers of all shorebird species means there is probably less competition rather than more. However, the possibility of there being less food does provide another good reason to carry out the benthic survey of the Firth of Thames the Centre has been trying to set up for some years.

•Now that JoJo and Amanda have indicated that the Japanese island of Honshu may be the main stopping off point for birds from New Zealand, as



GOOD HABITAT: Amanda in a rice paddy in Japan.

Photo / Hiromi Kano

well as for those from the rest of the South Pacific, are any issues there that might be adversely affecting our PGPs?

Unfortunately, yes, there are several studies suggesting migratory shorebirds stopping over in Japan do face serious challenges, which are likely to be at least part of the reason for the drop in numbers.

Both our birds went initially to coastal areas not dissimilar to Pūkorokoro and quite quickly moved inland - to newly prepared rice paddies judging by the photos - and then stayed put until they left for the Arctic. The limited use of coastal habitat is probably because the development which has recently been happening round the shores of the Yellow Sea, took place in Japan much earlier, during the post-war boom that transformed the country. A report by the World Wildlife Foundation Japan says that more than 40% of the country's tidal flats were destroyed by reclamation, port development, etc, during that time.

Our Kuriri would undoubtedly have been affected by that loss of coastal habitat but, because it occurred 50-60 years ago, it is unlikely to have caused the recent decline in numbers. A more likely cause is that, as Amanda and JoJo showed, PGPs visiting Japan now prefer to use rice paddies and there is a more recent problem of rice farms simply being abandoned.

This topic is studied in detail in a paper

called Spacial Abandonment of Farmland in Japan: Identification and Determinants, published on the Sustainability website in October 2018. The authors report that since the 1990s Japan has suffered from an accelerating problem of agricultural abandonment as a result of its aging and declining population, shortages of labour and a move of young people to the cities. Figures from Japan's Ministry of Agriculture, Forestry and Fisheries show arable land use declining from 6.09 million hectares in 1961 to 4 million hectares in 2015. Media reports indicate the abandonment of farmland has, if anything, worsened since those figures were compiled. Overall, the statistics from Japan's MAFF indicate there is at least a third less land being farmed - which mainly means rice paddies - than was the case 50 years ago.

We know from observations of Kuriri at Pūkorokoro that they prefer clear farmland which has been recently tilled and preferably irrigated or rained on. When ploughed paddocks dry out or start sprouting crops the birds move on. That indicates that PGPs in Japan are unlikely to be attracted by areas which are no longer being farmed, haven't been tilled or irrigated, and are overgrown with weeds.

Certainly, such figures as are available indicate that numbers of PGP passing through Japan have declined sharply in recent years. A 2006 study led by Tatsu

Amano found that between 1975-84 and 2000-03 average spring counts of the birds declined by 20%, and a follow up study in 2010 revealed that from 1975 to 2008 PGP numbers dropped by 38%. Amano also demonstrated that bird species such as PGP which were dependent on rice fields were declining at a greater rate than those utilising other habitats. Similarly, in 2008 the Japanese spring census reported 2,530 PGPs, but by 2014 that had dropped to 1,274 and by 2016 the tally was 1,028.

Fortunately, if the abandonment of farmland is indeed a significant factor in the decline of our Kuriri, there is some good news. The Japanese Government is extremely concerned about the collapse of many rural communities - for social and economic rather than conservation reasons - and has introduced several policies aimed at reversing it. It has put a huge effort into persuading more young people to go farming, promoting farm tourism, improving rural infrastructure, clearing abandoned farmland, assisting the growth of rural cooperatives, facilitating the consolidation of small plots into larger farms, reforming the rice market and supporting rural financial institutions. It is also encouraging the redevelopment of abandoned farmland as wildlife habitat.

That all sounds a little bit hopeful for the future of rural Japan . . . and for the future of our Kuriri.



NURSING: Ray Buckmaster checks out some of the first plants in the new shadehouse in the Trust's nursery on Annie and Sean Wilson's property at Miranda.

Photo / Jim Eagles

Coastal rehabilitation plan draws massive support

The project to rehabilitate the Findlay Reserve – and hopefully other parts of the coastal strip as well – is really taking off thanks to a grant of nearly \$40,000, huge work by volunteers to create a nursery and start raising plants, and growing indications of support for a planting effort in June next year, writes **Ray Buckmaster**.

If you look to the south-east from the Shorebird Centre deck you can see Mount Te Aroha. It is a small mountain with some obvious but gradual elevation related transitions in the vegetation. Nearing the top there is a miniature, lichendecorated, pygmy forest. Above this is the TV transmission tower, surrounded by an alpine herb-field, a relic of a plant community that would have existed at low levels during the last glacial period. The peak is 953m so these changes in the plant community have occurred over a vertical distance of nearly a kilometre.

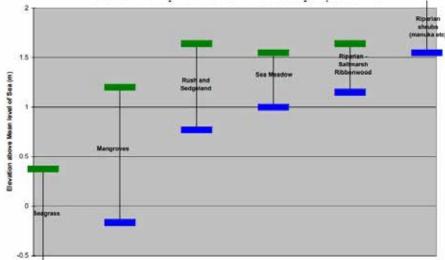
On the Findlay Reserve changes in plant distribution occur over changes in elevation measured in centimetres. It is a tidally-influenced environment with a range of vertical elevation of just 2.3m. The lowest point, in the middle of the Stilt Ponds, is 0.9m above mid-tide level. The highest point is 3.2m, above the tidal influence in most cases, and marginally suitable for coastal bush species,.

Ministry of Works and Development archives tell us that in 1948 a 40m shoreward chenier margin was suggested to be left un-exploited by the Limeworks to minimise flooding from the sea. This is the ridge that we follow when we walk down the trail from the Shorebird Centre to the Reserve. At its greatest height it is 0.55m above the mean height of high spring water, and it does protect the Reserve from the sea, except during the extreme and infrequent storm surges. Inland of this barrier several exploited, and thus lower, chenier ridges sit on the marine mud deposits.

A diagram (below) from a 2007

study of Coromandel estuarine/chenier sites) illustrates how estuarine plant communities are distributed in relation to mean sea level. These communities tend to overlap to make quite a complex mosaic. Our Reserve has a good representation of native sea meadow species, but lacks most rush and sedge land flora, and is totally without the riparian species. These are the communities to be restored.

Most plant communities have the



DISTRIBUTION: Plant community boundaries in moderately exposed areas of estuarine wetland in Coromandel Harbour. Diagram / Waikato Regional Council



BOTANICAL SUMMIT: An impressive array of botanical experts gathered on the Findlay Reserve to offer advice for the rehabilitation programme. (From left) David Havell (DOC), Chris Longson (Ecoquest), Nick Goldwater (Wildland Consultants), Krishna Buckman (HELP), Steve Benham, Peter Maddison, Bec Stanley (Auckland Botanical Gardens), Mike Wilcox (Auckland Botanical Society), Warwick Buckman (HELP), Ray Buckmaster, Ken Brown (DOC), Catherine Beard (DOC)

capacity to restore themselves over time. Certainly, this does apply to sea meadow species that produce profuse amounts of floating seeds that can be carried to wherever the sea reaches.

But where no seed source exists, due to long term exploitation, ecological restoration is dependent on an expensive campaign of re-planting of the species that have been lost. This is less challenging where the environment is fairly homogenous, as perhaps is the case with the returning of pasture to bush on the slopes of Mount Te Aroha.

Where the physical environment changes dramatically over small distances, trials are valuable to minimise the inevitable loss of expensive plants. Our trial planting this June was to confirm or otherwise the best part of the land contour for each species.

So far, so good, but the testing time is high summer. Come the autumn of 2020 we will have a much better idea about to where to plant the 10,000 plants currently being grown by, or for, the Trust.

Our understanding of what to plant has also been greatly boosted by a Botanical Summit, of professionals from various regional and local bodies and community groups involved in aspects of ecological restoration, which was held on-site in August. This has been useful in modifying both the list of species and the approaches that the Trust will use in the restoration.

It has also set up the potential for co-operation with other restorations currently underway, or soon to be so, in the coastal strip. The past has resulted in habitat fragmentation, so the opportunity to biologically connect restorations will result in a more robust local ecology, as large habitats are biologically more diverse and resistant to external influence.

Only a dozen or so species will be used in the initial phase of restoration. For some, like the coastal daisy, it will be necessary to go further afield to find seed. It surely existed in the area but now the closest seed source is across the Firth, in the Coromandel.

But in sourcing most species we are fortunate to have a local nursery that supplies plants for restoration work that are grown from locally gathered seed. These eco-sourced plants will be better adapted to local conditions, survive at a greater rate, grow more quickly and reproduce more successfully.

Trust members have also been gathering local seed from the most significant species for several months. A few supporters are already growing plants from this for next year with one grower living as far away as the Wairarapa.

The logistics of doing this have been made hugely easier thanks to an offer from Annie and Sean Wilson of the Stray Dog Café and Miranda Gallery for the Trust to establish a restoration nursery on their property. We are incredibly grateful.

With seed capital of \$1000 from the Trust, and a further donation from a member, we have been able to put together a simple restoration nursery. Thanks to the work of volunteers we now have a shade-house for the most recently potted plants and a fenced off, weed-free area in the open for more mature plants.

We also have access to a plentiful supply of water and an automatic watering system has been installed. On top of that we have been gifted many re-cycled pots and a considerable quantity of potting mix. We have, in Annie Wilson, someone who will look after the plants. That means our volunteer growers can concentrate on looking after trays of seedlings, which are so much easier to move around the country. They can be transplanted into larger pots at the nursery.

The nursery currently has over 800 plants in residence and when complete it will be able to raise a minimum of 3,000 plants each year. Some help might be needed for that! When this project began, the Trust was determined that the restoration was going to go ahead

regardless of external funding, and a nursery capable of producing plants at a very low cost was a way of ensuring that.

But now we also have a grant of \$37,356.80 towards the work this year which will allow us to make a major impact (unfortunately at the time of writing the identity of the source of the money is under embargo).

This funding is only for one year, and of course the project will take much longer than that, but PMNT's fundraising expert Alister Harlow points out that our application was for a total of \$116,000 spread over three years. 'As the amount requested is quite substantial,' he says, 'it is not surprising that they only committed to fund year one. We should be confident that we will receive the requested funding for years two and three provided the project meets its targets in year one.' The Trust owes a debt of gratitude to Alister who has patiently guided the complex process of grant application for yet one more PMNT project.

Thanks to this generous support, before the planting in June/ July we will be able to:

- Replace a fence-line between the Reserve and a neighbouring farm paddock to ensure that our plants are safe from grazing.
- •Scrub-bar and herbicide spraying the major pest plant, fennel, before it reaches seeding stage.
- •Blanket-spray the other major weed species, Carex divisa, in the proposed area to be planted.
- •Establish photo-points in the area to be planted to monitor progress of the restoration. Drone technology is certainly something to be considered.

The funding also covers the cost of two motorised soil augers so we will be able to prepare planting holes in advance of planting sessions.

Even with that preparation, with around 10,000 plants to go in the ground in June/July, we are going to need a lot of volunteer help. Fortunately, the amazing response to our project suggests this will be forthcoming.

As an example, we have just received a very generous grant from the Valder Trust, which is managed by the Waikato Branch of Forest & Bird, which has allowed us to complete and equip the restoration nursery. The Waikato Ecological Restoration Trust has also been very generous with advice on establishing the nursery and supplying essential irrigation gear. We are also fortunate to have benefited from the practical advice of Warwick Buckman of HELP (Habitat Enhancement and Landcare Partnership) which is involved in many restoration planting projects in the region and runs its own nursery.

And the contributions made by volunteers have been amazing. Perhaps I could mention one such, a lady who will be travelling up from Te Anau to spend a week helping plant the Reserve.

Meanwhile, it's worth remembering that restoring native plant cover to the Reserve sets the scene for the next stage which is to attract some of the species of birds, reptiles and insects which once would have thrived there. Our flagship species for this is the Fernbird. The linkages involved in achieving our aim to bring back the Fernbird were well illustrated by Dr Peter Maddison with a comment at the Botanical Summit. A cornerstone species on the Reserve will be the salt-marsh ribbon-wood, a divaricating shrub with a much-branched tangle of stems. That creates an ideal place for spiders to form their webs, which are well placed to catch the 'aerial plankton', those tiny insects so common on the Reserve. Fernbird like nothing better than a chance to penetrate a clump of the shrub to feast on the spider's progeny. So, as Peter pointed out, if you want to have Fernbirds on the Reserve, it's going to help to have Salt-marsh Ribbon-wood.



WATER: Annie Wilson and Ray Buckmaster check out the new watering system at the nursery set up for the coastal rehabilitation project. Photo / Jim Eagles







CORNERSTONE SPECIES: (from top) Bonking Grass; Sea Primrose; Salt-marsh Ribbon-wood and (inset) the Fernbird that enjoys it.

Photos / Ray Buckmaster, Jim Eagles, Sunita Singh, Donald Snook.



Report From the Chair

How can individuals help to combat climate change

A hui on climate change leaves **William Perry** with plenty to ponder about what we can do to both combat the consequences and try to stop it happening.

On 16 October some of us from the Shorebird Centre attended a hui at the Whakatiwai Marae. The hui was on Climate Change. It was hosted by Ngati Paoa and attended by representatives of Waikato Regional Council and Hauraki District Council.

The principal concern of local iwi, and of our other neighbours, in the context of climate change is the rise in sea level that is predicted as a consequence of the warming of our planet.

I was impressed again by the blend of dignity, solemnity and humour that is a feature of occasions at the marae. As always, it was a pleasure to hear people speaking comfortably in te reo Maori. We can only blame ourselves if we struggle to understand more than a few words in Aotearoa/ New Zealand's other official language.

It was the severe storm of 5 January 2018 that brought home to us at the Shorebird Centre and others on that coast the potential effects of Global Warming. The two councils represented at the hui declared their intention to work together with one another and with local inhabitants, including iwi and presumably PMNT, to develop strategies for dealing with the effects of climate change. They did not claim to have any answers, but they indicated a willingness to listen to the concerns of the locals and to do something about it.

PMNT Council also has to bear in mind the reality of Climate Change as it affects our activities. We are currently considering a plan to replace the Manager's cottage adjacent to the Shorebird Centre. When we have addressed the issue of funding this project we shall then have to consider where we place the new cottage. We shall probably decide to put it where the current cottage exists but there is a genuine concern in our minds that a rise in sea level could render the site vulnerable to flooding.

Another way of thinking about Climate Change is that we should be doing something to slow down and halt its progression and preferably reverse the adverse effects of human activity on the planet. The United Nations has been



TASTE OF THE **FUTURE?** This storm surge brought an example of what climate change is likely to mean for the Shorebird Coast right to the Centre's front door. Photo / Chelsea Ralls

considering this recently and young Greta Thunberg had some stern words, not only for the leaders of the world's nations but also for our older generations of people. This issue should be on the agenda of every government in the world even if some of its leaders are in denial.

But what should we be doing at an individual level? Should we stop using fossil fuels to generate energy? Should we stop using internal combustion engines to transport ourselves from place to place? Shaun Hendy has addressed this issue in a BWB Text titled #No Fly – Walking the Talk on Climate Change. Hendy, a physicist at the University of Auckland, forced himself to avoid flying anywhere for a year in 2018 and describes the experi-

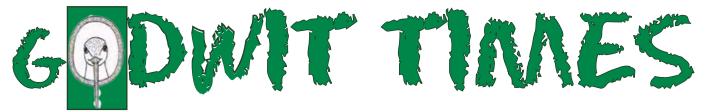
ence in this book. He did allow himself to fly in case of a family emergency, but no such emergencies arose during 2018 so he made no flights. This was a considerable challenge for him because his job required him to be in locations other than Auckland and so he had to use buses and trains and, when driving was the only option, electric vehicles. The book also discusses the general issues of Climate Change and what we are doing (or not doing) about it.

So, many thanks to Whakatiwai marae and to Ngati Paoa for an interesting and thought-provoking hui and for some excellent kai.

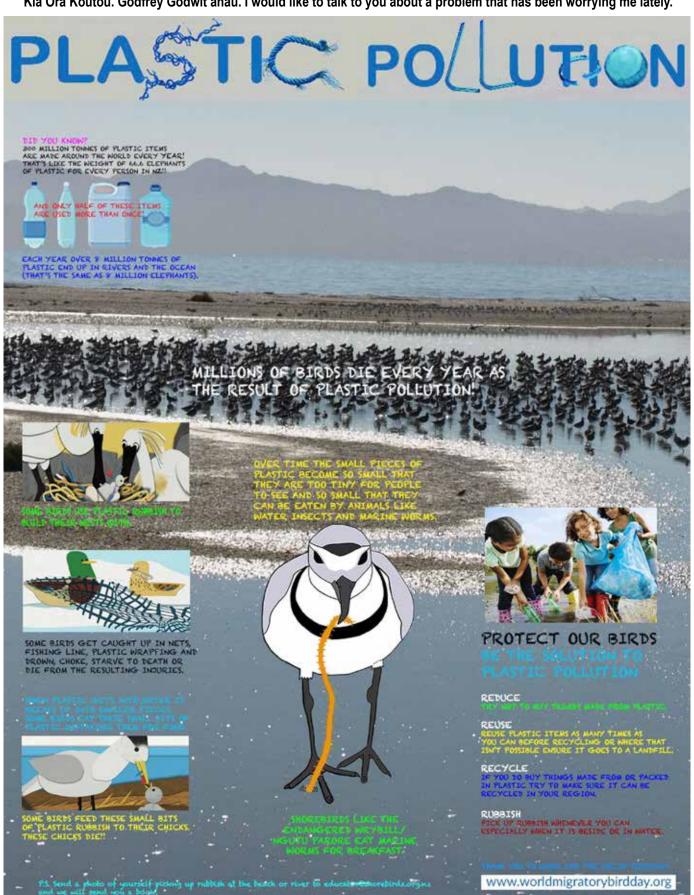
Ngā mihi **William Perry**

A towering figure in the shorebird world Clive Minton 1934-2019

A car accident in Australia on 6 November has caused a massive loss to the shorebird world. Clive Minton was a towering figure in global shorebird studies. A pioneer of cannon-netting with the Wash Wader Ringing Group in the UK, Clive had lived in Australia since 1978, playing key roles in the Victorian Wader Studies Group and Australasian Wader Studies Group. He helped initiate the annual Northwest Australia Shorebird Expeditions, which over the last 35 years have demonstrated the importance of Roebuck Bay and Eighty Mile Beach as key non-breeding habitat of many species of migratory shorebirds. It was once estimated that Clive was involved in the banding of over 700,000 shorebirds, of which over 100,000 were personally banded by him. His profound legacy endures in this country as well. At least two of our key shorebird banders, Adrian Riegen and David Melville, were trained in cannon-netting by Clive on The Wash in the 1970s. An obituary will appear in the next issue of *PM News*. –Keith Woodley



Kia Ora Koutou. Godfrey Godwit ahau. I would like to talk to you about a problem that has been worrying me lately.



PŪKOROKORO MIRANDA NATURALISTS' TRUST



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Magazine

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

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See the birds

Situated on the Firth of Thames between 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 Miranda high tide is 30 minutes before the Auckland (Waitemata) tide. Drop in to investigate, or come and stay a night or two.

Low cost accommodation

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

Become a member

Membership of the Trust costs \$50 a year for individuals, \$60 for families and \$75 for those living overseas. 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 pay a subscription via Paypal, by direct credit or by posting a cheque.

Bequests

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

Want to be involved?

Friends of Pūkorokoro Miranda

This is a volunteer group which helps look after the Shorebird Centre. That can include assisting with the shop, guiding school groups or meeting people down at the hide. Regular days for volunteer training are held. Contact the Centre for details.

Long term Volunteers

Spend four weeks or more on the shoreline at Miranda. If you are interested in staffing the Shorebird Centre, helping with school groups or talking to people on the shellbank for a few weeks contact Keith Woodley to discuss options. You can have free accommodation in one of the bunkrooms and use of a bicycle.

Firth of Thames Census

Run by Birds NZ (OSNZ) and held twice a year, in June and November, the census days are a good chance to get involved with field work and research. Ask at the centre for details.

Contribute to the Magazine

If you've got something you've written, a piece of research, a poem or a photo send it in to Pūkorokoro Miranda News. If you want to discuss your ideas contact Jim Eagles.

Help in the Shorebird Centre Garden

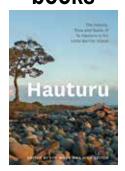
We can always use extra hands in the Miranda Garden, be it a half hours weeding or more ambitious projects. If you do have some spare time please ask at the centre for ideas, adopt a patch or feel free to take up any garden maintenance you can see needs doing.

Caps so cool they make you want to take a selfie



Meet the Shorebird Chicks. New members welcome. Just buy one of our amazing Shorebird Centre caps for \$29.90 and you can be one of the cool kids too.

Just in stock Two stunning new bird books



\$59.90



\$54.90

Don't miss our 2020 Shorebird Calendar

Stunning photos of our favourite birds and all the information you need to make the most of a visit to the Shorebird Centre. Plus a big calendar block with lots of room for notes, high tides for Pūkorokoro and the dates of our events during the year.

Be quick. 2020 is closer than you think. Only \$17.90





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