Miranda News

Journal Of the Miranda Naturalists' Trust

May 2014 Issue 92

Sunshine amid the gloom

Chinese accept MNT report on how people and migratory waders can live together at Yalu Jiang

From the Editor

MNT's amazing international coup

This is a particularly significant issue of *Miranda News*.

First, as you can see, the magazine is now in full colour. There's no doubt our birds and landscapes look better in colour and I hope the lovely photos will entice you in to read more of the great articles.

And that brings me to the second and more important reason why this issue is significant: it contains a substantial summary of the report by an MNT team on the wader stopover site at Yalu Jiang.

It's a big chunk of print, the sort of article that many of you probably tend to put aside and read when you've got time, but never actually get around to. Please don't.

If you're at all interested in migratory birds - and as members of MNT I'm sure you are - this is a document you should read.

The information in it, from more than a decade of surveys, shows that Yalu Jiang is the most important staging site on the East Asian Australasian Flyway, especially for our Bar-tailed Godwits. The report also demonstrates that the site is under threat from China's booming coastal development.

But perhaps the most important thing about this report is the fact that the Chinese authorities asked MNT to do it. That's a remarkable gesture of respect for a tiny voluntary organisation at the end of the earth. And the lengthy haggling that has gone on about the precise wording of the report shows that the Chinese take it very seriously. We should do the same.

Apart from anything else, as someone who doesn't know a lot about these amazing birds, I can tell you that it makes fascinating reading.

Jim Eagles

ON THE BOARDWALK (from left): The first supports slide into position;

Miranda Snippets

A new boardwalk, grand old birds,

There was no shortage of theme tunes when a team of enthusiastic amateur hammerhands turned out over a recent weekend to build a 20m boardwalk to the new hide. Offerings included 'If I had a Hammer', 'Maxwell Silverhammer' and 'Under the Boardwalk'.

The carpentry wasn't quite as good as the singing but thanks to the skills of foreman Adrian Riegen the result is a sturdy and appropriately rustic structure.

The project was made possible by a grant of $3500 from Waikato Regional Council. Its big test will come on June 14 when there will be a king tide of the sort that used to wash out the old shell and culvert pathway.

Regular readers may have noticed a dearth of exclamation marks in Miranda News. That's because, during 50 years in journalism, the present editor has formed the opinion that communications filled with exclamation marks and capital letters are infallible signs of nuttiness afoot. Not everyone agrees with this policy, however, and Council members Ray and Anne Buckmaster are among those lobbying for a better deal for exclamation marks. Anne even produced a T-shirt design (above) in the hope of softening the editor's heart. So far it hasn't worked!

A weekend visit to the family bach at Kaiaua produced mixed feelings for Janie Vaughan. On the one hand she was pleased to read that DOC is planning a study of Pied Shags to see what might be done to protect them from fishing nets. On the other she "watched two men row out to a net in which a juvenile pied shag was caught. We had been discussing how to free it and thought these men would do that by cutting the net with the knife one wielded. Instead they cut the shag's head off and dismembered its body." DOC has been informed.

Tony Habraken's article in the February issue of *Miranda News* about that godwit superstar, E7, and her predecessor, EO, produced an enthusiastic reaction when it reached Anchorage, Alaska. American wildlife biologist Bob Gill, who launched the satellite tracking programme with EO, was delighted. "What a great article! I read it with a smile on my face and

Front cover: Yalu Jiang — Photo / Murray Potter
Back cover: White heron — Photos / TangTeng Onn

after two days work the job is nearly done; Gillian Vaughan and Adrian Riegen try it out. Photos / Jim Eagles

T-shirts, talented volunteers and exclamation marks

nothing but great memories. If anyone questions how well cooperative international efforts go, just share this story with them. I consider it THE exemplar."

This picture of the Bar-tailed Godwit ZPE was taken last month at Mokpo, South Korea. This bird was first banded at Miranda on 17 October 1993 when it was already aged more than three years old so it is now at least 23 -and-a-half years old. Like some of the banders involved, it's obviously still migrating and still looking pretty good.

And speaking of old birds, the catch at this year's Miranda Field Course was of South Island Pied Oystercatchers, and they were netted at Taramaire as the tides were not big enough to use the shellbank and the Black-billed Gulls were still nesting there.

Among the 37 SIPO caught – enough for course participants to band a few each – there were two retraps: H32580 was banded at Miranda as a first year bird on 23 August 2009; K12942 was banded at Taramaire aged two years on 30 January 1994. That makes it over 21 years old and, Adrian Riegen reports, "possibly our oldest SIPO."

DOC's new director-general Lou Sanson sent an email to staff telling them that he spent part of his summer break "reading Keith Woodley's book about the journey of our godwits."

The book obviously struck a chord because the D-G then expounded poetically about the amazing migration flight of the godwit, expressed concern at reclamation of staging sites on the Yellow Sea and acknowledged that the southward spread of mangroves is spoiling godwit habitat. "Many of these esturine areas are on private farmland," he concluded, "so local DOC staff are working with Fonterra and farmers to recreate migratory bird habitat. It's a multi-faceted issue, but is so fantastic to see the opportunities our partnerships are creating for us in helping look after this species."

MNT has been fortunate to have some very impressive volunteers working at the hides this summer.

For six weeks, for instance, Miranda was home to Korean birdwatcher, astronomer and philospher Jung-Kyu Lee, who happily followed up an invitation issued by Keith Woodley when he was attending a conference in Korea.

In a message written at the end of her stay she says, "Saying goodbye to Miranda is hard because I've fallen in love with this magical place. Every time I

What's on at the Shorebird Centre

25 May, Annual General Meeting
11am Have your say on the future of the Miranda Naturalists' Trust. Guest speaker Dr Rochelle Constantine talking on Whales in the Hauraki Gulf. Birding from 2pm (high tide at 4.30pm).

22 June, OSNZ Firth of Thames Wader Census
Contact Tony Habraken (09 238 5284) for details

23 August, Winter Pot Luck Dinner
6pm Guest speakers John Stewart and Kay Milton on 'Black bags, plastic magpies and quail eggs - the ups and downs of life for terns on the Copeland Islands in Northern Ireland.

2-4 September, NZ Dotterel Management Course
Contact Keith Woodley at the Shorebird Centre for details.

walked to the hide I would be mesmerized by the vast open space itself, by the hills, by the light and colour and by the birds and their songs."

For three weeks after that the hides were manned by Mary Thompson, formerly a lecturer in biochemistry at the University of Otago, now spending her retirement furthering a lifelong interest in birds.

Having just completes a Graduate Certificate in Ornithology, Mary says she is " keen to put what I learned into action." This she is doing as regional representative of the Ornithological Society in Otago, and coordinator of the national Royal Spoonbill Census and, of course, volunteer at Miranda.

NEW-LOOK: Kristelle Wi and Anne Buckmaster model a couple of the new tops now available at the Shorebird Centre. Anne, who drew the birding artwork, is wearing a green godwit shirt (they also come in purple) which sells for $24.90, while Kris has a fuschia wrybill singlet.

Don't overlook the curious charm of the pukeko

Keith Woodley muses on the oft forgotten appeal of the common pukeko.

CHARMING: The Centre's pukeko family. Photo / Ann Buckmaster

Sometimes we see things without seeing them. The Stilt Ponds at Miranda are aptly named for there are almost always stilts to be found there. It is also a place where almost any other bird could also turn up so is always worth scanning: What sandpipers are foraging around the salt marsh edge? What interesting straggler is lurking among the Wrybill flock?

But in looking for those other species, do we always pay sufficient attention to the ubiquitous stilts? Are they such a common feature of this place that we look around, or even through them in search of something else? Or use them as markers with which to direct someone's attention to the other bird in question? 'It is just to the left of those two stilts.' 'Go to the left hand end of the stilt flock and up to the right.' How often do birders pay attention to House Sparrows? Is it similar for many people when it comes to Pukeko?

Yet for many overseas visitors the situation is quite different. If voting in the annual Bird of the Year contest were restricted solely to visitors I suspect pukeko could well be a serious contender, if not the clear winner. Tourists just love them; they are large and colourful, display a certain gawky character and are commonly seen, even beside roads or motorways. Any item in the Shorebird Centre shop bearing a pukeko motif tends to be a hot item.

Widely distributed through much of the country, they are not uncommon around the Miranda district. However, until recently their presence around the centre and grounds has usually been fleeting: a brief visit to Widgery Lake or, more commonly, heard flying overhead, usually at night. Two years ago several birds began to frequent the lake and its surroundings, staying around for several weeks. But then they departed. Late last year several birds not only turned up again but this time at least two lingered – and commenced breeding. Over the summer visitors could watch chicks being fed just outside the kitchen window.

By late April the adults were still here, very much in residence. They could be regularly seen around the lake, wandering the grounds or fossicking around the cottage. At any time of the day, to the normal colour scheme of Widgery Lake there was now added the vivid splash of red bill and shield, or flash of white under-tail.

In residence at Miranda

By late April the Arctic wader flocks had dwindled substantially, those godwits and knots intending to migrate this year were gone, leaving just a few hundred to spend the winter with us. By now most, if not all, of the migrants will be foraging somewhere around the Yellow Sea.

The turnstones and golden plover were still here at the time of writing but they too will doubtless be gone by the time you read this.

Meanwhile, the South Island Pied Ostercatchers are in residence in their customary roosting spot – creating a thick black coat over the edge of the shell spit – while in the skies above their tiny fellow South Islanders, the Wrybills, perform their aerial ballet.

On the end of the spit are the spoonbills, their huge white shapes providing a dramatic contrast with their more diminutive neighbours.

Keith Woodley

Arctic Migrants

Bar-tailed Godwit	510
Red Knot	400
Ruddy Turnstone	28
Sharp-tailed Sandpiper	2
Marsh Sandpiper	1
Red-necked Stint	3
Pacific Golden Plover	33
Curlew Sandpiper	1

New Zealand Species

Wrybill	2100
NZ Dotterel	
Banded Dotterel	c95
SI Pied Oystercatcher	c4000
Variable Oystercatcher	
White-fronted Tern	
Caspian Tern	
Black-billed Gull	
Pied Stilt	
Royal Spoonbill	32
White Heron	1

GREEN FINGERS: Kevin (above) and Janie (below) Vaughan in action.

Revamp for Centre garden

The garden around the Shorebird Centre is going to get a makeover aimed at making it easier to maintain.

The Shorebird Centre garden has, over the years, fluctuated according to who has been available to work on it.

Former chair Stuart Chambers recalls starting it with the help of David Baker, Monty Widgery and a couple of locals. "Monty donated $1500 for the lake in memory of her husband Desmond and later planted the island. Frank Leonard who had the transport business at Miranda mowed the long grass and local farmer Bill Motion turned up with a grader and leveller." In later years Anthea Goodwin, Norah Peachman, Esther Burgess spent countless hours in the garden.

These days it is maintained by a few regulars, assisted by people turning up with a couple of hours to spare, spotting work needing to be done and getting stuck in.

One regular is Warwick Buchmann who keeps weeds like convolvulus under control. Two others are Kevin and Janie Vaughan who maintain the grove of cabbage trees and an adjoining strip of shrubs. To make their job easier they recently put weedmat under the cabbage trees – as Kevin says, "It can be a bit frustrating clearing out the weeds only to find that next time you come down they've grown back again" – and that approach is about to be followed in other areas.

After much consultation, Council member Ray Buckmaster has drawn up a master plan to make gardening maintenance easier by creating larger areas that can be mowed and covering other sections with shrubs and weedmatting.

"In some areas,' Ray says, "the need is to level the land so that it can be negotiated by a mower.

"Other areas are visually important and would be difficult to make into lawn due to steepness. Here the rank grasses and weeds are to be replaced by native shrubs, rushes and sedges.

"Sightlines need to be preserved so plantings will be of an appropriate size. We also want to produce more bird habitat to encourage Banded Rail."

The plan is to clear the ground and install weedmat in time for the winter planting season. If you'd be interested in helping please contact Ray at weaves@clear.net.nz

Poet draws inspiration from cannon netting

Anyone who has ever gone cannon netting at Miranda at dawn knows that, once you've set aside sandflies, residual sleepiness and being shouted at, it's a beautiful experience. So it's little wonder, really, that poet Hilary Elfick (at rightt) has been inspired to write about the experience in her latest book of poetry, *On The Edge*, published by Pennings Partnership Press.

Hilary, who has produced 13 books, almost all poetry, knows about birding. She is a guide on Tiritiri Matangi, her logo is the godwit and she has been working on poems related to different stages in the birds' year. Hilary has a special interest in migrations and the instability of the

NETTING AT MIRANDA

"The clatter and splash of footsteps in the creek, and crunching shell on the far bank, offer bearings in the darkness." *Godwits,* by Keith Woodley

The clatter
from bins holding stakes, mallets, stools.
The firing box in a small wooden suitcase.
Steel projectiles, 70mm long, will
propel the net over the catching area,
each exploding from the cannon,
a heavy steel tube set with black powder.
And splash
We have measured today's tidal line rising in its cycle
so the roosting place shrinks. We lift our faces
to feel for rain, for the net can ruffle feathers
and the birds get cold. It's dangerous to extract them
when our hands are wet. They are roosting,
sleeping, preening, already feeding where pools remained
as the sea receded. The sounds are changing.
Tension rises as the tide returns.
Of footsteps
Clumsy, ours of course. Easier barefoot,
but shell and bone can cause a stumble,
startle a wakeful bird. It is not the boot
put down carefully; it is the boot lifted
with the sound of suction, alien noise,
the clank of metal parts against a thigh,
the unseen, unexpected dip in the sand
destroying a careful balance, wasting a night's work.
In the creek
In the creek a soft sheen suggests a ray,
its round steady penetrating eyes observing closely.
Only its occasional undulation will catch my attention,
but then all four of our eyes meet in the almost darkness.
I slowly nod my greeting. Respecting an honoured friend.
It watches with interest, without comment.
And crunching shell
Our boots crunch the middens: vivalves and cockles,
sandgapers, already cracked by oystercatchers;
our feet flatten the curled excreta of sandworms.
Here, unlit, all the marks - the tiny bill of stints, small as sparrows,
a long decurved bill which reaches to a curlew's horizon,
the tough wedge-shaped mark of a turnstone,
and right at my feet, maybe, the slender bill of a godwit,
where its bulbous, sensitive end has picked up vibrations in the mud,
foraging in zigzags, moving its buried mandibles like tweezers,

INSPIRING: Scenes from the most recent cannon netting at Miranda when Red Knots were the target but 402 Wrybills were the catch. Of these, 121 had been banded before, 97 in the Auckland region. Two of these are at least 22 years old, making them probably the oldest known Wrybill. Photos / Jim Eagles

at Miranda

geosphere.

A mother and grandmother, she has worked with refugees and hospices in several countries, lives in the UK and New Zealand and also works in Spain and Australia. Her main work in progress is on the bush of New South Wales.

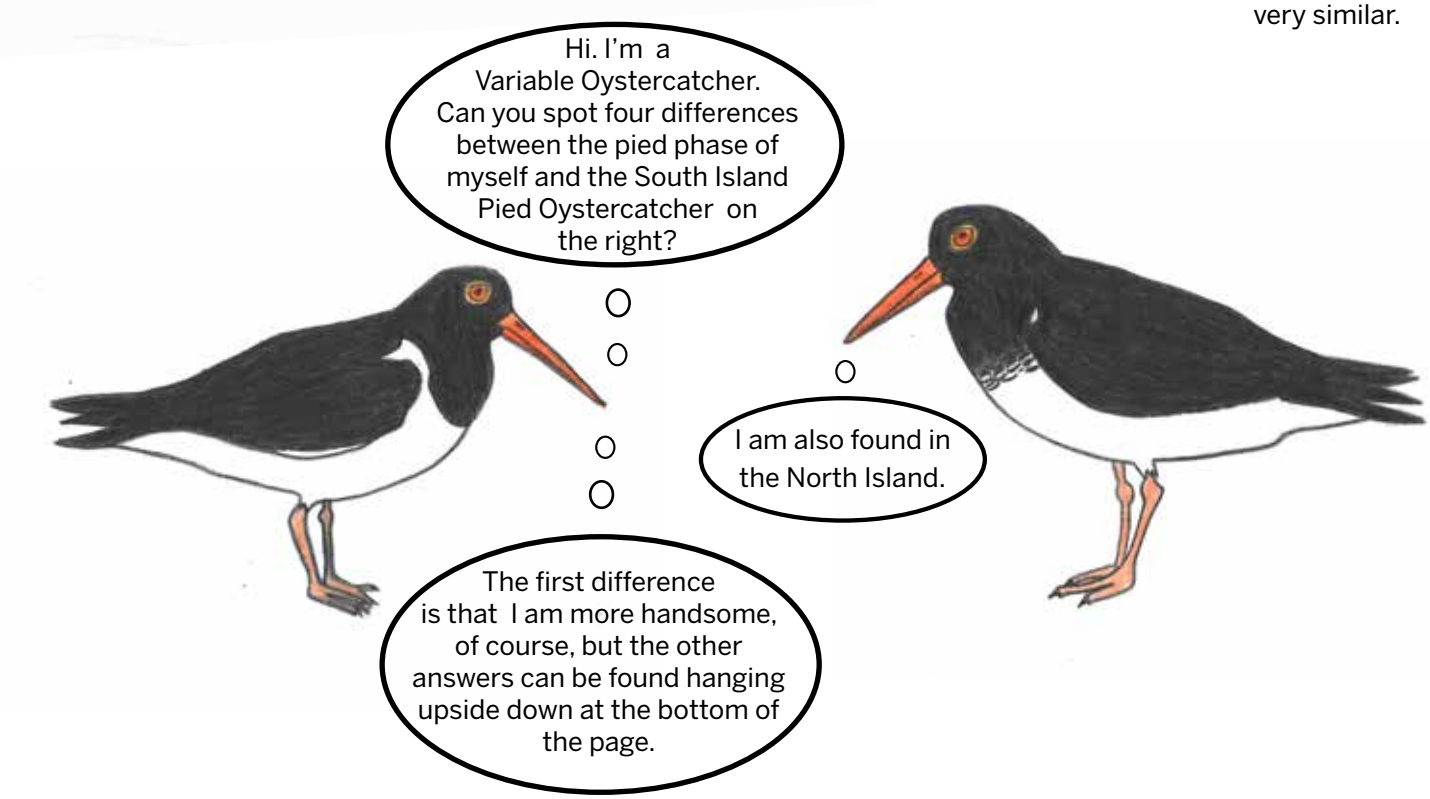
its curve tucking round corners, round the burrows of worms.
And here and there, still unseen in the starlight,
live shellfish sticking out their siphons.
On the far bank
The far bank can slope so gently from the soft sand of the seabed
distorted through constantly rippling water, or can shelve precariously in muddy layers which pretend to firmness,
harder for a beak to penetrate, easy for our boots to crush.
Offer bearings
Bearings like the wind on my cheek,
the sense of weightiness of the sea itself,
the effleurage of reeds further up the shore,
the creak of tamarisk where the soil is firmer
and the low moan of pohutukawa.
The strengthening breeze tells us the tide is coming closer.
In the darkness
of uneven starlight, Orion's belt with its fifth, hidden, star
and the pointers of the Southern Cross, Alpha Centauri
within the reach of the silver tip of the ghost of a wader.
There is a whisper, a human whisper, just audible
against the restless flutter of the feeding birds:
one, two, three: FIRE.

Hilary Elfick

GODWIT TIMES

Hi. It's Godfrey Godwit again. While many of the birds I have talked about in the past, such as the red knot or wrybill, may be unfamiliar to some people, oystercatchers are known by almost everyone. The striking black and white plumage of these birds combined with the bright red beak and eyes makes them easily recognisable.

What most people don't know is that there are three species of oystercatcher in Aotearoa. The Chatham Island Oystercatcher is only found on the islands its named for. It looks very like the South Island Pied Oystercatcher (or SIPO) only with a shorter bill and thicker legs. Interestingly the Variable Oystercatcher (or VOC) looks different depending on where in NZ it lives. Sometimes it appears with all black plumage. This seems to be most common south of Gisborne and Taranaki. Sometimes it has an intermediate phase where it is mostly black except for some white stripes on the belly. And then there is the pied phase. This is where identifying the oystercatcher gets a bit tricky as the VOC and SIPO look very similar.



The differences between the Variable Oystercatcher and the SIPO are:
1. The VOC is not much taller than the SIPO but it weighs almost 2kg more.
2. In the SIPO the line between the black feathers of the chest and the white belly is sharply defined but is more smudgy in the VOC.
3. The bill of the VOC is thicker than the SIPO's bill.
4. While the PO always has an area of white feathers between the chest and the folded black wing the VO barely shows any white plumage here.
5. Another difference that you can't tell from looking at the pictures but which might help you identify which species you are looking at it that the VOC is almost never seen away from the coast but the SIPO is often seen around lakes particularly in the South Island.

Chinese accept MNT report on Yalu Jiang

Miranda Naturalists' Trust took a giant step on the global birding scene a few days ago when it presented to Chinese officials and New Zealand's Ambassador to China a report on a decade of wader surveys in the crucial migratory wader staging site at Yalu Jiang Nature Reserve. The report also identifies threats to the site and recommendations for limiting the impact on migratory birds.

The project goes back to 1999 when Australian shorebird researcher Mark Barter arrived at Yalu Jiang looking for waders and found 150,000 along the 60km of coastline that makes up the reserve. Among them were several godwits banded at Miranda.

That was exciting news for NZ Wader Study Group convenor Adrian Riegen though, as he recalls, "as I'd promised Mark a beer for each of our flags the drain on my pocket was not so welcome." Adrian felt that Yalu Jiang could be an important site for 'our' godwits and visited himself the following year. That confirmed the area's significance and the start of a major involvement by MNT.

In 2004 a trust delegation went to China for the signing of a Memorandum of Understanding with Yalu Jiang which established a sister-site relationship. MNT undertook wader surveys in 2004 and from 2006-2010. Internal reports were written after each survey and in 2009 the trust suggested doing an overall report for the Chinese government.

At first the offer was declined but in 2010 there was a change of heart and the trust was asked to produce a report. Adrian and trust chair Gillian Vaughan drew up a draft which was initially accepted by the Chinese and work continued to produce it in Chinese and English. However, serious concerns about some of the content then arose and the project ground to a halt for a year.

Last year things got back on track and at the end of 2013 a mutually acceptable version was completed. This is a summary of that report. Copies of the full document, including references, will be held at the Miranda Shorebird Centre for anyone wishing to read it.

What the report says

Crucial site for our godwits is under threat

Twelve years of joint research by Yalu Jiang Estuary Wetland National Nature Reserve of China and Miranda Naturalists' Trust of New Zealand point to what needs to be done to protect the waders that stage there.

Virtually nothing was known about migratory waders at Yalu Jiang until Mark Barter and Jim Wilson from Australia visited in May 1999 and found 152,000.

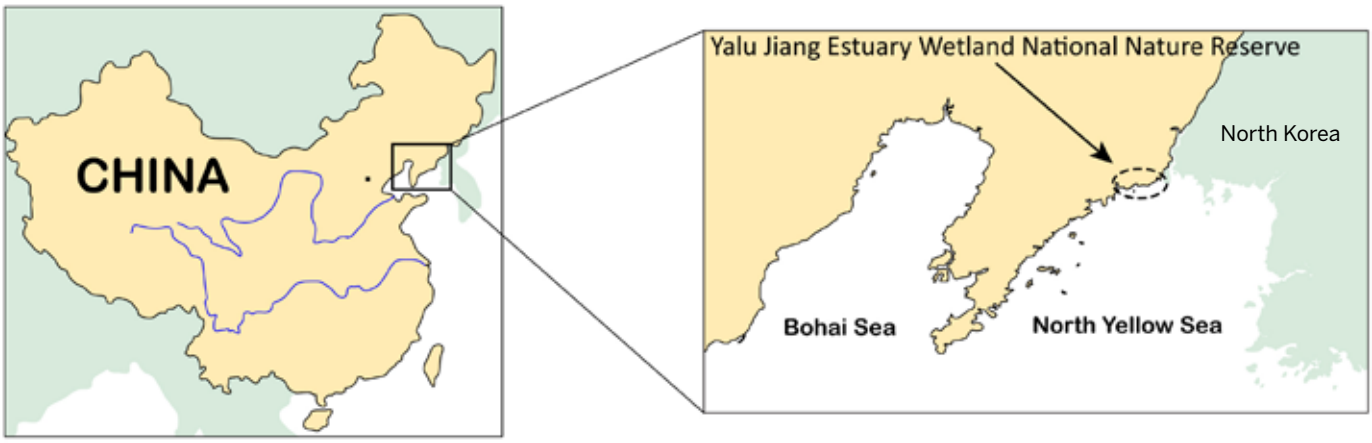
Waders at Yalu Jiang mostly use the area to refuel en-route to their breeding grounds, which stretch from northern China and Mongolia to Siberia and Alaska, and their non-breeding grounds in East and Southeast Asia and Australasia. Over ten years members of the Miranda Naturalists' Trust and staff of the Reserve have surveyed the waders and confirmed that the Reserve and the adjacent Yalu River are extremely important staging sites during these migrations.

Survey counts now show that Yalu Jiang is the single most important staging site known on the East Asian-Australasian Flyway (EAAF), with at least 250,000 waders refuelling there between March and May each year. At least 14 species use the reserve in internationally important numbers. Some birds travel 10,000km or more non-stop each year to reach Yalu Jiang making it a key link in the annual life cycle of our migratory waders.

BEGINNINGS: The late Mark Barter whose visit to Yalu Jiang started it all.

The Reserve is now well known across China and internationally and the waders are attracting growing numbers of Chinese visitors to the Dandong Region eager to marvel at these remarkable birds during their brief stay each spring. In contrast Yalu Jiang sits next to a rapidly growing industrial part of China and this development is likely to have detrimental effects on waders if their needs are not considered during development planning.

This report highlights the number and range of species of waders using Yalu Jiang during northward migration, the coastal habitat in the reserve and the pressures, both human and industrial, being placed on



the birds and the environment. We recommend strategies to ensure waders have a stable future amid the local economic development. Waders and people can coexist if that is the people's wish but it requires careful planning of developments, so that the needs of birds are also considered. It is hoped this report will help in these decision-making processes.

RESERVE DESCRIPTION

The 101,000ha Yalu Jiang Estuary Wetland National Nature Reserve stretches for about 60km westwards from Donggang along the shores of the Yellow Sea. The first 1-3km back from the seawall is largely made up of aquaculture ponds built from the 1950s onwards, which cover approximately 9,000ha. and extend along almost the entire length of the reserve.

Inland from the ponds most of the flat land within the reserve is used for growing rice. The reserve extends seaward to include all the tidal flats and some of the shallow sea. There are many villages and small towns within the reserve so it is not how most New Zealanders would view a nature reserve.

WADER ROOSTS

The counts have been conducted at 15 sites along the seawall where waders congregate on the last exposed mud. Neap tides allow the birds to remain on the mud but spring tides inundate the tidal flats and the birds are forced to find roost sites elsewhere.

Waders prefer clear open spaces with good visibility at roost sites, possibly with some protection from prevailing winds A good roost site will allow birds to spend a minimum of energy while they are there. Avoiding predation, maintaining body temperatures in cold winds or flying in response to disturbance all incur energy costs, diverting it from functions such as digesting food, growing new feathers, or gaining weight for their next migration flight. At Yalu Jiang most waders roost in empty aquaculture ponds or on the banks of ponds if they are free of vegetation.

No natural roost areas in saltmarsh, shellbanks or sandbanks now occur at Yalu Jiang as very little of the natural coastline remains, and that which does is largely rocky and unsuitable as a roost site.

Since the surveys began there has been some change. At the eastern end of the reserve a roosting site and some mudflats no longer exist due to port development. At the western end several square kilometres of aquaculture ponds have been built on the mudflats, mostly outside the reserve, significantly reducing the wader feeding grounds in that area.

At the western end of the reserve near the town of Gushan are extensive managed reedbeds used to produce high quality paper and are watered artificially. During the surveys the reedbeds are usually dry with few waders but species like Sharp-tailed Sandpiper and Wood Sandpipers do visit the area. Beyond the eastern end of the reserve is the western arm of the Yalu River, which flows between the North Korean island of Sin Do and the Chinese mainland. Very narrow at the northern end it broadens into an estuary with extensive mudflats, which remain exposed longer than most of the mudflats along the reserve so waders often use this area at high tide. Access to the river was not possible until late in the surveys and so it was not formally added to the counts until 2008.

FLAGGING AND BANDING

Many waders are now marked with flags and bands placed around the bird's legs which can be plain, cut in different shapes or engraved with numbers and letters. This report identifies 1,079 flag and band sightings recorded at Yalu Jiang and the nearby river mouth to October 2010.

This is by no means a complete record of sightings, as researchers continue to record hundreds more flags and colour bands, which await analysis. Of the 1,079 bands analysed, enough detail was seen to identify the banding region of 1,035 birds. These have come from 19 regions in eight countries.

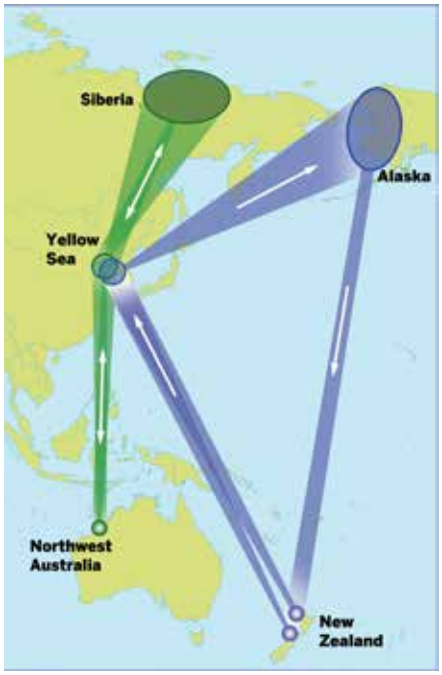
To date flags and bands have been recorded on 11 species. The majority have been on Bar-tailed Godwits and Great Knots, reflecting the effort that goes into banding these species at their non-breeding sites and the high numbers of both that use Yalu Jiang as a staging site.

Of the marked birds seen at Yalu Jiang that can be identified, 318 were banded at non-breeding sites in New Zealand, 209 in the North Island and 109 in the South Island. As well, 581 were from non-breeding sites in Australia, the bulk from Northwest Australia (415) and Victoria (147). A few also came from non-breeding sites in Sumatra and Thailand. A further 94 came from staging sites, mostly in China, while three were from Kamchatka in Russia.

SPECIES COUNTS

A total of 41 wader species have been recorded during the surveys and they have been divided into four groups.

Group one includes species that have been regularly recorded in internationally important numbers (at least 1% of the flyway population). Group two is for those that have occurred at least once in internationally important numbers. Group three birds occur regularly in small num-



YALU JIANG: (clockwise from far left): location map; scene on the Yalu River; flight paths of satellite-tagged Bar-tailed Godwits from Northwest Australia and New Zealand; godwit with the green and orange flags of Yalu Jiang and four other colour bands; Great Knot.

Photos / Jan van der Kam, Jimmy Choi, Xiao-Yang Liu, Adrian Riegen

bers. Group four is for those that are vagrant, occur rarely or erratically.

GROUP ONE

Bar-tailed Godwit

At Yalu Jiang, counts of Bar-tailed Godwits are consistently high, ranging from 26,169 up to 93,411. But this does not include the count data from the river sites so the population estimate for the reserve and river must be the high count of 93,411.

Counts show a rapid build up in numbers to reach a peak in mid-April but with birds' departures spread over a longer period as some birds stay in the reserve longer than others.

Two subspecies of Bar-tailed Godwit are known to use the reserve: the eastern Siberian-breeding form, *menzbieri*, which migrates to Northwest Australia and the Alaskan-breeding form, *baueri*, which migrates to southern and eastern Australia and New Zealand (counts did not differentiate between them). A third form breeding on the Anadyr Lowlands of Siberia, *anadyrensis*, has only recently been described and also uses the EAAF but little is yet known about it.

Anecdotal observations of birds in the field, combined with records of marked birds and satellite tracking data, suggest that in the first part of April *baueri* are the most common subspecies present, the middle of April is a mixed group and the *menzbieri* subspecies is dominant later in the migration period. The relative frequency of birds banded in Northwest Australia versus those banded in New Zealand and other parts of Australia seems to support this. This probably reflects contrasting migration strategies related to the normal duration of snow cover on their different breeding sites. Detailed work on how the two subspecies use the reserve is currently being undertaken.

Recent counts suggest the total population of Bar-tailed Godwits has probably fallen from 300,000 to around 240,000. In New Zealand approximately 9% do not migrate each year. If this also applies in Australia it would suggest that about 218,000 godwits migrate north annually. With up to 93,411 being counted during one survey period, Yalu Jiang is supporting at least 41% of the total Bar-tailed Godwit population of the EAAF during its northward migration.

Sightings of marked birds show that some godwits that use Yalu Jiang also use other staging sites, with 26 flag records from Chongming Dao, near Shanghai, one from South Korea, one from Taiwan and one from Hokkaido, Japan. In the reserve there are records of banded birds from every banding region in New Zealand and Australia, plus Sumatra, Indonesia, Thailand and Kamchatka, Russia.

Satellite tracking shows clearly the importance of the Yellow Sea for *menzbieri* godwits from Northwest Australia and *baueri* godwits from New Zealand. All satellite-tagged birds staged within the Yellow Sea with *menzbieri* generally more to the west and *baueri* to the east.

Great Knot

The second-most numerous species of wader at Yalu Jiang during the northward migration is the Great Knot, with one count of over 55,000 in 1999. During the survey period it is estimated that between 70,000 and 80,000 birds use Yalu Jiang.

During the earliest counts at the start of April low numbers of Great Knot are found in the reserve but the numbers build up to a peak in early May before dropping away again as birds leave on migration.

The flyway population of Great Knots was once estimated at 380,000 but this was based on data collect-

FROM LEFT: Grey Plover, Dunlin, Eurasian Curlew, Eastern Curlew.
Photos / Jan van der Kam.

ed before the completion in 2006 of the Saemangeum seawall across the Dongjin and Mangyeung Estuaries in South Korea with its disastrous consequences. Later counts suggest the population is probably no more than 290,000 birds and may be even lower.

Prior to the habitat destruction at Saemangeum its two ecosystems were the only Yellow Sea sites with counts higher than Yalu Jiang. The number of Great Knots using the reserve during northward migration, estimated at 70,000-80,000, is close to 25% of the global population making Yalu Jiang the most important staging site for the species in the world.

Dunlin

Numbers of Dunlin at Yalu Jiang are consistently high throughout the migration period and have ranged from 43,875 in late-April 2006 to 22,482 in late-May 2000. This pattern is unusual and prevents successful modelling of the migrating population size. The high count of 43,875 is the best current population estimate.

However, if more than one subspecies is using the reserve and they migrate at different times it could explain the consistently high counts and. if so, total numbers of Dunlins using the reserve may be substantially higher. Alternatively, most are arriving in non-breeding plumage, indicating they are using this area not only to refuel but also for moulting into breeding plumage, so they may have a longer period of residence than some species.

There have been only four sightings of flagged Dunlins at Yalu Jiang and all of them were marked on the reserve.

Only two counts of Dunlin higher than those from Yalu Jiang have been recorded on the EAAF: Yancheng NNR in Jiangsu, China, recorded 57,867 in April 2001 and the Mangyeung Estuary, South Korea (part of Saemangeum) recorded 47,650 in April 1999, but has since been destroyed. Based on current data Yalu Jiang is the second-most important staging site for Dunlin on the EAAF.

Grey Plover

Counts of Grey Plovers at Yalu Jiang range from 3,001 in April 2010 to 7,232 in late May 2008. The estimates of the total numbers migrating through the site range from 8,500 to 10,500 birds.

Numbers of Grey Plovers build up slowly to a peak in late-May. The lengthy arrival period suggests most if not all migrants are present before departures start. They arrive at Yalu Jiang from their wintering grounds with little breeding plumage but attain full breeding plumage while there. Once started, departure of the whole population is probably rapid.

Only 13 marked Grey Plovers have been seen at Yalu Jiang but they come from five different banding regions, including birds marked at non-breeding sites in Thailand, Northwest Australia and Victoria, and the staging and non-breeding sites of Hong Kong and Chongming Dao, plus one bird flagged within the reserve. Of the 10 Grey Plover flagged at Yalu Jiang one has been recorded in the Philippines and another in Hong Kong.

The population on the EAAF is estimated to be 125,000 birds. The estimates for Yalu Jiang suggest that about 7% of the total flyway population uses the survey area.

Curlew

Counts of curlews are problematic as the Eurasian Curlew is similar in size and plumage to the Eastern Curlew, both species are very wary and counting conditions do not always allow the two species to be separated in the field. The two species mix freely at all times throughout the Reserve and River but flocks vary widely in the percentages of each. As far as possible each species has been counted separately but each survey has substantial counts of "unidentified curlews" so both species will use the reserve in higher numbers than those recorded.

Counts of Eurasian Curlew at Yalu Jiang have ranged from 234 in May 1999 to 13,136 in April 2004. Numbers of Eastern Curlews have ranged from 731 in late-May 2000 to 6,818 in early-April 2009. Numbers of unidentified curlew have ranged from 20 to 5,930. In total it is estimated that 22,000 curlews use the reserve as a northward staging site.

Three subspecies of Eurasian Curlew are recognised, but only one, *orientalis*, is present in the EAAF. They breed in northern Mongolia and southern parts of eastern Siberia and winter in Asia with at least 50% staying in China and Korea during the non-breeding season. Virtually the entire population winters north of the Equator. As no flags have been seen on Eurasian Curlew there is no indication whether these birds are from one non-breeding area or several.

The estimated population of Eurasian Curlews using the EAAF is now estimated to be 100,000. Only Shandong Yellow River Delta, Huang He NNR, with a maximum count of 9,766 in April 1999 comes close to the maximum count of 13,136 Eurasian Curlews at Yalu Jiang in 2004, which makes it the most important known staging site in Asia for Eurasian Curlews during northward migration.

Eastern Curlews are only found in the EAAF where they breed in eastern Russia and northern China with almost all of the population wintering in Australia. There have been eight records of flag sightings of Eastern Cur-

FROM LEFT: Far Eastern Oystercatcher, Kentish Plover, Greenshank. Photos/Phil Battley, Jan van der Kam

lew at Yalu Jiang. Given that all the important non-breeding sites known are in Australia it is not surprising that four of them come from Victoria and two from Northwest Australia.

The Eastern Curlew population estimate of 38,000 is based almost entirely on data from the 1980s and 1990s. The species has clearly declined since then and the population is probably now only 20,000. Yalu Jiang is easily the most important site for the species during northward migration. The 6,818 Eastern Curlews counted in 2009 amounts to 34% of the newly estimated population.

Far Eastern Oystercatcher

The biggest count of Far Eastern Oystercatchers recorded at Yalu Jiang was 296 in mid-April, 2006. (However, in 2011, 1,068 were recorded by David Melville at Site 6 on 26 March). The main migration of this species may occur before the survey periods begin.

A few pairs of oystercatchers breed in the Yalu Jiang Estuary and these are usually nesting by mid-April.

The Far Eastern Oystercatcher subspecies *osculans* is the only oystercatcher occurring in the Asian part of the EAAF. The flyway population is estimated at 10,000 and the Yalu Jiang population was earlier thought to be about 3% of this total, but since 2006 it appears to be more like 1.5%.

They winter around the Yellow Sea in China, Korea and Japan and breed in three distinct regions: around the Yellow Sea, the Russian coast from Vladivostok north, and on the Kamchatka Peninsula. A fourth population may breed in inland China.

Spotted (Nordmann's) Greenshank

Sightings of small numbers of this critically endangered species occur regularly in the reserve. While not recorded on every survey they may well be overlooked due to both small numbers and identification difficulties. No migration patterns can be drawn from the data available, except to note they are apparently present in the reserve for the entire survey period.

Spotted Greenshank is confined to the EAAF and has a population of 1,000 or less, so sites that hold just 10 are considered important. The 20 to 30 seen at Yalu Jiang each year therefore makes it one of the key known sites during northward migration.

GROUP TWO

Kentish Plover

Counts of Kentish Plovers in the survey area range from just 12 birds in May 1999 to 1,485 in April 2004. The population estimate for this species at Yalu Jiang is 1,300. It is estimated that 100,000 birds spend their non-breeding season on the EAAF. The numbers at Yalu Jiang are regularly around 1% of this number.

Lesser Sand Plover

Numbers of Lesser Sand Plovers counted range from less than 10 in April to 647 in late-May. Lesser Sand Plovers pass through the reserve quite late with peak numbers counted in late-May. More work at this time would allow a much better idea of how many birds are using the reserve, and how often they are present in internationally important numbers. The latest flyway population estimate for the species is 130,000, but only two of the five subspecies, *mongolus* and *stegmanni,* are likely to occur in the Yellow Sea and the estimated population for these is 60,000.

Common Greenshank

The maximum number of Common Greenshank recorded in the reserve is 712 in early May 2008; the minimum was only 18 in early April. No population estimate is available for this species and the maximum count may not be an adequate estimate of the numbers of Common Greenshanks using the reserve.

Red Knot

The highest count of Red Knot recorded at Yalu Jiang was 1,499 in early-May 1999, however this was exceptional. The next highest total is 112 in early May 2008, two counts had only a single bird present while the species was absent in 2009.

Two subspecies of Red Knot are recognised as migrating through the EAAF, *rogersi* and *piersmai*. Recent reviews suggest that the global population is not 220,000, as once thought, but no more than about 120,000.

The important staging sites for Red Knots on northward migration have been a mystery until very recently but now the north Bohai is known to be a major staging site, hosting at least 40,000 birds.

Broad-billed Sandpiper

Counts of Broad-billed Sandpipers range from 0 in early April to 729 in early-May 1999. They have not been recorded as arriving at Yalu Jiang from their non-breeding sites in Southeast Asia and Australia before late-April. As much of May is as yet unsurveyed further counts may show that this species is regularly present in larger numbers. The flyway population has been estimated at 25,000 and the two highest counts from the reserve are close to 3% of that number.

Spotted Redshank

Small numbers are seen at the Yalu Jiang Estuary, ranging from 8 in April 2010 to 838 in early-May 2008. It is unknown whether this single high count represents a regular number for May or was a one-off event. On migration they occur mostly on the east coast of China or on inland lakes. Because of their use of many wetland habitats the total population is diffi-

cult to ascertain, but thought to be between 25,000 and 100,000 birds.

Ruddy Turnstone

At Yalu Jiang, 399 Ruddy Turnstones were recorded in May 2008. Apart from this, numbers have ranged from 1 to 194.

The Ruddy Turnstone appears to be a species that passes through later in the season with the early April surveys recording less than 10. These birds could either be late migrants which miss most counts or they could be moving to their breeding sites after staging elsewhere but forced down to Yalu Jiang by bad weather.

Ruddy Turnstones have a very wide range around the coasts of all continents except Antarctica during the non-breeding season. Their migration is not well understood as their ability to feed on beaches and rocky shores as well as tidal flats means the populations are widely scattered.

During the northward migration Taiwan and Japan are major staging regions for the species and the Yellow Sea is less important. In 2008 the estimated population was raised from 20,000 to 38,000 based on counts in northern Australia. However, most of these data are at least 10 years old and more recent counts in New Zealand and southern Australia point to a large decline, so 20,000 probably remains a more accurate total.

GROUP THREE

Group three comprises eight species regularly recorded in Yalu Jiang but only in small numbers. They include Whimbrel, Wood Sandpiper, Red-necked Stint, Terek Sandpiper, Common Redshank, Sharp-tailed Sandpiper, Common Sandpiper and Grey-tailed Tatler. Many are more common in May so could be more regularly recorded when the gaps in the May surveys are completed.

A ninth species, the world's most endangered wader, the Spoon-billed Sandpiper, is also classified in this group. It is occasionally recorded in the reserve so may be occurring more regularly but being overlooked due to the small numbers.

There are only three records of Spoon-billed Sandpiper at the Yalu Jiang Estuary during the survey period but there are several more from 2012 and 2013. It is now thought that only 200-300 exist, so just 2-3 birds makes a site internationally important.

GROUP FOUR

This group is made up of those species which have been recorded at Yalu Jiang but are not regularly seen. These include Little Curlew, Sanderling, Long-toed Stint, Marsh Sandpiper, Greater Sand Plover, Black-tailed Godwit, Curlew Sandpiper, Green Sandpiper, Oriental Plover, Ruff, Little Ringed Plover, Common Snipe, Ringed Plover, Temminck's Stint, Oriental Pratincole and Pied Avocet.

TOTAL NUMBERS

The highest count of waders at Yalu Jiang was in April 2009, when 176,535 birds were recorded; the lowest was in late-May 2000 with only 92,990 waders counted. The River was only counted in 2008, 2009 and 2010.

Most wader species have a definite time when they are present, with numbers increasing as they begin to arrive, reaching a peak and then declining as they move on toward their breeding grounds. Some species, including the curlews, Bar-tailed Godwit and Kentish Plover, reach peak numbers early in the migration period. Others such as Great Knot build up more slowly and then leave at the same rate. Species such as Grey Plover and Lesser Sand Plover reach their peak late in the count period.

These different strategies mean that on no given day will every bird that passes through Yalu Jiang be present. Some species that arrive by early April could well be gone by early May, whilst others do not arrive until May. This means the minimum number of birds depending on the reserve has to be determined by using the population estimates for those species in the survey area, where that can be determined, combined with the highest count. This leads to a minimum estimate of 250,000 waders using Yalu Jiang as a staging ground during the northward migration period.

WHY YALU JIANG IS SO VITAL

The Yellow Sea is strategically sited more than halfway along the EAAF flyway for the longest travellers, and Yalu Jiang, located at the northern end of the Yellow Sea, is the last opportunity for many birds to feed before heading for their northern breeding grounds.

Compared with flights of up to 10,000 km from non-breeding grounds, the distance from Yalu Jiang to most breeding areas ranges from 2,000 to 7,000 km, depending on the species and population, meaning birds can arrive at their destination with reserves of fuel. This in turn, means they are better prepared for the start of the breeding season. But it is the concentration of birds in Yalu Jiang compared to other locations in the Yellow Sea that indicates it is more than just its geographical location that makes it important. Waders need food and high tide roost sites, both of which have been found here.

Most of the waders using Yalu Jiang feed on the tidal mudflats. These have been formed by sediment and nutrients washed down major rivers particularly the Yalu River. The sediment falls out according to the local hydrology, creating various types of mudflats that each contains different quantities and types of food. Sediment loads have been halved since dams were built along the Yalu River but the productivity of the Yalu Jiang mudflats is easily seen not only in the vast quantity of birds supported, but also the large numbers of people fed, evidenced by the hundreds of people picking shellfish off the mudflats and hundreds of small inshore fishing boats that work along the coast.

Each wader uses the food resource in a slightly different way. The most common species in the reserve, Bar-tailed Godwit, feeds largely on worms, while Great Knots feed on bivalve molluscs, which they swallow whole. The shorter bills and smaller size of Dunlins mean that they specialise on smaller worms and crustaceans close to the surface. The long curved bills of curlews allow them to feed on worms and crabs deep in their burrows. Grey Plover have large eyes and watch for movement. Oystercatchers break open large shellfish to gain access to the flesh inside.

Around the world there are a number of 'mega sites' that are used by waders as refuelling sites on their migrations. It is only when comparing the Yalu Jiang Estuary to these well known, important sites that the true importance of this site can be

seen. While not as large as some of the largest staging sites the estimated 250,000 birds using the reserve make it one of the top wader staging sites in the world. More important is how Yalu Jiang compares to other sites within the EAAF. Most of the large staging sites in this flyway are based around the shores of the Yellow Sea, but there are also some further north, around the shores of the Sea of Okhotsk. Information to date suggests that Yalu Jiang is the single most significant staging site on the EAAF.

THREATS

Waders have fine-tuned their long migrations over many millennia to take advantage of very specific sites that provide the ideal types of food in sufficient quantity to enable them to refuel in a short time before continuing their migration. Refuelling sites are like links in a chain with each link needing to be intact for the chain to work. Destroy a key wader refuelling site and their annual cycle is disrupted, possibly fatally.

Staging sites may be used for only about four to six weeks on the northward migration, but their vital importance to waders has become clear in cases where human activities have made habitats unsuitable.

At Delaware Bay, USA, for instance, staging waders once congregated in large numbers to feed on the eggs of Horseshoe Crabs that came ashore in vast numbers to spawn just when the migrating birds passed. Human overharvesting of the crabs caused their numbers to collapse to low levels, reducing the food available for birds. The immediate impact on Red Knots was a loss of body condition followed by dramatically reduced adult survival, lack of productivity on their Arctic breeding grounds and poor recruitment of young birds into the population. Counts in non-breeding sites in South America show that the population dropped from 100,000-150,000 to between 18,000 and 33,000, a decline of some 80%.

There are a number of threats to waders at Yalu Jiang.

Reclamation

As a result of the reclamation of South Korea's Saemangeum wetlands, which used to support the largest number of waders along the Asian coast of the

ANTI-CLOCKWISE from top right: Ruddy Turnstone; Red Knot; Lesser Sandpiper; Broad-billed Sandpiper; Whimbrel; Spotted Greenshank; Black-tailed Godwit; Spotted Redshank.

Photos / Phil Battley, Ian Southey, Jimmy Choi, Jan van der Kam,

PART OF Yalu Jiang reserve with mudflats, ponds and dry rice paddies along the coastline. Photo / Google Earth

EAAF, the Yalu Jiang reserve and river has now become the most important site on the Asian coast.

The mudflats in the reserve are the feeding habitat for migratory waders, and the shrimp ponds and rice paddies to the north of the seawall are roosting habitat during high tides.

The seawall in the reserve was built around the 1980s to protect the shrimp ponds established in the 1950s and 1960s and the inland rice paddies. As we do not have data from that period it is hard to assess the impacts on waders but the large-scale reclamation must have had considerable impact.

Human Disturbance

Disturbance is considered a long term limiting factor on the use of staging sites. Studies show that disturbance was a likely factor in long term declines of waders using sites at Plymouth Beach, USA, and that human disturbance reduced foraging time available at Delaware Bay, USA, limiting birds' ability to put on the weight needed for migration.

Modelling studies suggest that numerous small disturbances may be more damaging than fewer, larger disturbances. Waders at Yalu Jiang are disturbed both on roost sites and while foraging. Disturbance levels are increasing as the human population pressures in the area increase. The effect of this on the reserve's ability to support the present number of waders needs to be investigated.

Shared Use

Human harvesting of shellfish, shrimps and other invertebrates is common on the mudflats at Yalu Jiang. Whilst these activities have for a long time been the main livelihoods of local people the impact on marine life has not been studied in any detail.

Waders appear to cope with this level of disturbance but in some areas of shellfish production bird-scaring techniques are used to prevent birds from feeding. This activity seems to be quite localised and on a small scale. Whether there is much competition for food between people and waders has not been studied.

Birdwatchers

A large number of birdwatchers come to Yalu Jiang every year. Although most adhere to good birding behaviour, there are still some who startle birds and cause disturbance.

Bird photography is now popular and photographers have been observed approaching roosting waders without taking due care and even using firecrackers to make the birds fly for pictures. A programme of education is needed to advise people on the best way to behave around the birds.

CONCLUSION

Studies of waders continue to show that although the Yellow Sea contains large areas of mudflats, they are not equally suitable for all wader species, therefore protecting known major sites of a species is vital to its long term survival. Yalu Jiang is without doubt the most important link in the chain for at least six species of waders during northward migration and destroying or even partially damaginging this incredible place would have a major detrimental impact.

RECOMMENDATIONS

Governmental Level

1 Liaoning Province and Dandong City governments could support research into sustainable use of mudflats.

2 Port developments should be planned to maximise use of existing space rather than blindly destroying wetlands.

3 Develop a tourism industry based around migratory birds over different seasons.

4 New Zealand and China should use the connection provided by migratory species to encourage links between the nations such as: Joint Venture industries to sponsor the wader education and research work done by the reserve; work with the East Asian-Australasian Flyway Partnership; integration between schools in New Zealand and the Dandong region based on wader migration as has begun between schools in South Korea and New Zealand.

5 Increase funding to YJNNR in particular for advocacy and educational

Results of wader surveys at Yalu Jiang 1999-2010

Counts are recorded seasonally from the earliest in April to the latest in May

	April				May				
	8-18	15-22	13-23	15-24	20-25	2-9	6-11	8-12	16-23
Species	2009	2007	2006	2010	2004	1999	2008	2005	2000
Common Snipe					2				
Snipe sp.		4				5	3		
Black-tailed Godwit		1	3	2	2		1		17
Bar-tailed Godwit	74,611	38,283	45,691	84,680	66,134	51,918	35,321	49,100	26,169
Little Curlew					1,183			20	
Whimbrel	26	50	89	135	414	286	240	166	232
Eurasian Curlew	8,155	6,243	6,100	3,039	13,136	234	3,702	645	563
Eastern Curlew	6,818	4,001	2,126	3,282	3,874	3,744	1,114	955	731
Curlew sp.	4,377	5,930	4,100	1,258	1,407	20	2,282		130
Spotted Redshank	10	210	113	3	171	162	382	31	10
Common Redshank	8	27	54	17	18	49	77	35	44
Marsh Sandpiper		7	2		1			16	
Common Greenshank	19	124	33	50	165	351	707	72	258
Spotted Greenshank	4	23	24	15			5	12	3
Green Sandpiper					5				
Wood Sandpiper		102	3		465	490	72	49	123
Terek Sandpiper	12	22	27	18	56	153	358	99	326
Common Sandpiper	2	3	6	3	3	5	6	3	23
Grey-tailed Tattler						6	11	2	19
Ruddy Turnstone		2	4	5	9	44	399	39	194
Great Knot	20,393	19,917	16,268	53,467	32,880	55,178	26,972	20,270	26,093
Red Knot		21	1	5	33	1,499	107		61
Sanderling	4			2	7		34		13
Red-necked Stint		5	62		20	299	154	36	541
Temminck's Stint								1	
Long-toed Stint					3	24		7	
Sharp-tailed Sandpiper		3			35	61	80	47	97
Dunlin	40,861	32,276	43,875	25,301	34,841	25,181	31,954	22,913	22,482
Curlew Sandpiper			7		1		2	6	2
Spoon-billed Sandpiper									1
Broad-billed Sandpiper					12	729	14	98	723
Ruff	1	2							
Far Eastern Oystercatcher	159	190	296	177	224	70	150	109	189
Black-winged Stilt		104	13	4	14	38	4	15	
Pacific Golden Plover	4				9	147		2	
Ringed Plover							2		
Little Ringed Plover	2						1		
Grey Plover	3,570	4,643	5,573	3,001	4,628	4,005	7,113	6,010	7,232
Kentish Plover	1,354	894	1,485	1,251	436	12	62	15	17
Lesser Sand Plover	2	8	4	1	171	306	540	305	647
Greater Sand Plover							25		
Oriental Plover							4		
Oriental Pratincole					1				
Unidentified	40	3,200	3,400	819	6,111	7,702	7,519	17,930	6,050
TOTALS >	160,432	116,295	129,359	176,535	166,471	152,718	119,417	19,008	92,990

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work.

Local Level

6 Consider engineered solutions to some problems. For example: Screen roosts close to roads with barriers to reduce the disturbance associated with vehicle traffic; create artificial roost sites along the reserve, which could be as simple as a single large aquaculture pond, about one per 4km, adjacent to the sea with screening to stop human disturbance.

7 Develop artificial roost sites free from human disturbance. At least one could be managed as a tourist attraction.

8 Hire an education officer dedicated to people-control and education along the reserve foreshore.

Research

9 Regular surveys of the waders still need to be carried out to monitor populations, to determine what species use the reserve in May and to look at southward migration.

10 Benthic surveys combined with studies of feeding behaviour would provide information about why waders use the area the way they do.

11 Some species, particularly Dunlin, still needs to be identified to subspecies level.

All these things are possible if there is a willingness to allow waders to share the environment with the human population.

The 39th annual general meeting of the Miranda Naturalists' Trust will be held at the Shorebird Centre at 11am on Sunday May 25

Annual Report from the Chair

Another year of impressive progress

As has been signalled in *Miranda News* for several months now, after the AGM we will be convening a special meeting of the Miranda Naturalists' Trust. The purpose of the meeting will be to consider the resolution, as outlined in the agenda, to change the name of the Trust from Miranda Naturalists' Trust to Pukorokoro Miranda Naturalists' Trust. Council received a reasonable amount of comment on the proposal for the name change: it was overwhelmingly positive and there were several suggestions that the name Miranda be dropped entirely, balanced by a large number of people concerned that the reputation the Trust has built would be lost with any name change. We also received suggestions that the Naturalists' portion of the name be removed and replaced with Shorebird. Council considered all of the suggestions and has decided to put to the meeting the original proposal, Pukorokoro Miranda Naturalists' Trust. If the name change is approved it is the Council's intention to also change the name of the Centre to Pukorokoro Miranda Shorebird Centre.

Field Course Tutors

2013 kicked off in style with another highly successful field course, long term field course convenor Eila Lawton, and regular tutor Peter Maddison both advised us this would be their last field course. It took some time to thank them properly, however at the last open day we presented Eila with

a small gift as a token of appreciation for her work on the course. I'd like to reiterate my thanks here, both Eila and Peter made huge contributions to the field course and will be missed.

Bioblitz

It seemed like the field course had barely finished when planning kicked into high gear for the bioblitz held at the end of February. This was a massive logistical exercise and would not have been possible without a huge amount of effort from Keith Woodley. There were too many people involved on the day to thank individually, suffice it to say that the thousand species challenge was blown out of the water, and over 500 people came through the doors of the centre that day.

The Fonterra-DOC partnership has been progressing slowly though 2013 and we are still working with both parties on a land enhancement project.

Speakers

Slipping back to a more normal routine, we had some excellent speakers throughout the year with Jimmy Choi speaking on his work in the Yellow Sea, Rick and Ellis Simpson on their world travels raising funds for Spoonbilled Sandpiper conservation, Nigel Milius on his guiding work in the Arctic. An add-on talk that was well attended and very interesting was a half-day session on the status of shorebirds in the flyway. The highlight for many members was Keith reminiscing on 20 years at Miranda with some pictures taking us down memory lane.

China

While no-one from the Trust visited China this year, we did have a group from the State Forestry Association visit us, and it was one of the most useful of these types of visits that I have seen. We managed to convey a significant amount of information about the challenges shorebirds are facing in the Yellow Sea to a group that included people that may be working with our birds. Although they didn't make it to China our staff and members did travel widely in the cause of shorebird conservation, Adrian Riegen, Keith and Kristelle Wi headed off to the Gulf of Carpentaria to help with a shorebird survey, focused on finding the migration paths of our red knots. Keith participated in flyway workshops in Korea and Hong Kong while David Lawrie attended the Flyway Partnership's Meeting of Partners in Alaska.

The report on 10 years of shorebird surveys at Yalu Jiang was completed and agreed with the Nature Reserve staff late in 2013 and will be launched in China in early May this year. We are expecting that the New Zealand ambassador will be attending the event. The survey this year will be funded with help from the Ministry of Foreign Affairs and Trade, and Department of Conservation staff members will be part of the team. DoC has appointed Bruce McKinley as liaison with the flyway partnership and his efforts on this projects have been huge. I am delighted that governmental interest has been taken in shorebird conservation.

Grants

Another significant event during 2013 was the addition of the signs to the track system, funded by Waikato Regional Council. My understanding is that these have made the walk to

AGENDA FOR THE 39th ANNUAL GENERAL MEETING ON 25 MAY 2014

Apologies for Absence
Minutes of the AGM held on 19 May 2013
Matters arising from the minutes
Chairperson's Report
Treasurer's Report
Election of Officers (Treasurer, Secretary, Auditor, 10 Council Members)
Subscriptions for the year ending 31 December 2015
General Business

SPECIAL GENERAL MEETING

To be held following the AGM to vote on the following resolution:
This Special General Meeting of Miranda Naturalists' Trust instructs the Executive Council to alter the Trust deed to change the name of the Trust to 'Pukorokoro Miranda Naturalists' Trust'.

The 39th annual general meeting of the Miranda Naturalists' Trust will be held at the Shorebird Centre at 11am on Sunday May 25

the hide for the average person some 20 minutes longer as people stop to read them. The signs were a significant amount of work from Keith with great help from other council members and I think the increase in the time taken to walk the track is a testament to the work they put in. WRC has provided further funding for the section of boardwalk that was recently installed. We also once again received funding for the Shorebird Guide role from ASB trust and were delighted to reemploy Kristelle for the summer period. Kris has now been with the Trust for five years and over that time she has made a significant contribution.

This year

2014 has got off in style with another successful field course. This year we said good bye to long term volunteer caterer Audrie McKenzie, who has been coming up from Christchurch for many years now to provide catering for the field course. As well as providing the fuel for the participants she has used her educational background to give feedback to course tutors and convenors. She will leave a huge hole, however we do wish her the best with her house rebuild, and expect to see her as a visitor to the centre at some point. At the time of writing this the 2015 field course is half full, so if you have been considering participating I would encourage you to make your interest known to Keith.

Items that are keeping council occupied at the moment include the extension of the Hauraki Cycle trail, the progression of the DoC and Fonterra partnership, and ways of pushing the educational message we have to more and more people.

Thanks

The traditional end to a yearly report is the thank yous. To Keith, Maria and Kristelle, to Council members and all of our regular volunteers, to those who have come to working bees or helped out around the centre in someway, and to those who are involved in teaching or research and those who share their joy in natural history with their friends I offer my thanks.

I look forward to seeing you all at the AGM.

Gillian Vaughan

The 39th annual general meeting of the Miranda Naturalists' Trust will be held at the Shorebird Centre at 11am on Sunday May 25

MINUTES OF THE 38th ANNUAL GENERAL MEETING OF THE MIRANDA NATURALISTS' TRUST HELD AT THE SHOREBIRD CENTRE ON SUNDAY 19 MAY 2013 AT 10.00am.

PRESENT: The Chairperson (Gillian Vaughan), Secretary (Will Perry), Treasurer (Charles Gao) and 54 others.

APOLOGIES: John Charteris, Mike Hazel, Ashley Reid, Sue Reid, Nancy Payne, Jeanette Sutherland, Brian Tyler, Judith Tyler, Shirley Nieuwland, Bruce Postill, Janet Hunt, Carol Davies, Detlef Davies, Alison Holst, Peter Holst, Trish Gribbles, John Gribbles, Steven Haynes, Stanley Park, Susan Blackman. Apologies Accepted (Gillian Vaughan/David Stonex).

MINUTES: The minutes of the 37th AGM held on 19 May 2012 had been published in *Miranda News*. The minutes were approved as a correct record.

MATTERS ARISING FROM THE MINUTES: David Lawrie reported that he has set up a Twitter account for Miranda Naturalists' Trust. To date he had sent 15 tweets but has no followers yet.

The MNT accounts for the year ended 31 December 2011 were approved at a later meeting of MNT Council and are available for perusal on line.

CHAIRPERSON'S REPORT: Gillian Vaughan extended a special welcome to former Chairpersons present: Stuart Chambers, John Gale, David Lawrie.

The report from the chair was published in *Miranda News* and Gillian spoke to some of the issues mentioned.

Special thanks to MNT volunteers, staff and other people who turn up and get co-opted.

Visitor numbers remained high following the Rugby World Cup in 2011. Rowena West has reported that overnight visitor numbers remained steady.

The Bioblitz on 28 February 2013 was successful in spite of the drought. There were 1,142 species identified, including the pink stuff in the lake.

Kristelle Wi has successfully continued and extended the task of predator trapping.

On the Flyway, David Melville has reported that Yalu Jiang is seeking Ramsar status.

David Melville and David Lawrie will attend a Flyway Partnership meeting later in the year.

Adrian Riegen and Keith Woodley are planning a trip to the Gulf of Carpentaria.

Bohai in the Yellow Sea has emerged as an important shorebird site on the Chinese coast.

It was moved that the chairperson's report be received (Gillian Vaughan / David Lawrie).

TREASURER'S REPORT: Charles Gao's Financial Report was published in *Miranda News*. Charles spoke to the report:

There has been a sharp increase in sales. MNT has received grants from ASB Trust and Waikato Regional Council, which have been used to fund the employment of Kristelle Wi. Donations have also increased. Charles extended special thanks to those donors.

Unfortunately, expenses have also increased but MNT has ended the year with a surplus in excess of $25,000.

Charles also commented that he is aware that there is an error in the Balance Sheet and that this will be corrected.

Charles especially thanked Gillian Vaughan and Alister Harlow for their support and help in managing the accounts of the Trust and in preparing the Financial Report.

Questions on the Treasurer's Report: In response to a question regarding the apparent reduction in grants from $31,982 to $4,500, Charles commented that the latter figure did not include the grant received from ASB Trust.

Moved (Charles Gao / David Lawrie) that the Financial Report be adopted. CARRIED nem con.

Gillian Vaughan thanked Charles Gao for maintaining the Trust accounts and for presenting the Financial Report

ELECTION OF OFFICERS: Gillian Vaughan announced that Phil Hammond was stepping down from MNT Council. She thanked him for his contributions as a member of Council and said his special perspective will be missed.

Secretary – William Perry elected unopposed.

Treasurer – Charles Gao elected unopposed.

Council – There were 10 nominations for Council, namely David Lawrie, Eila Lawton, Adrian Riegen, Gillian Vaughan, Wendy Hare, Estella Lee, Emma Pearson, Trudy Lane, Ray Buckmaster, Ann Buckmaster. Elected unopposed. Gillian Vaughan welcomed Ann and Ray Buckmaster as new Council members.

Auditor: Lance Fielder of Gyde Wansbone proposed (Charles Gao / David Lawrie): CARRIED.

SUBSCRIPTIONS: Proposed (MNT Council) that subs remain unchanged for 2014. CARRIED.

GENERAL BUSINESS:

Kite Surfing. Gwenda Pulham reported that there is a rising threat to New Zealand shorebirds from the new activity of kite surfing, which has now become an Olympic sport. Disturbance of high-tide shorebird roosts by kite surfers has been particularly noticeable on the Manukau and Kaipara harbours. Vulnerable shore nesting species such as Fairy Terns are also affected. Gwenda proposed that Miranda Naturalists' Trust take the lead in association with New Zealand Wader Study Group, OSNZ to approach Auckland Council and the Department of Conservation to initiate korero, to identify areas that are precious for roosting waders and to control the activity of kite surfers (possibly with protocols and "no-go" zones) in order to share the margins and minimise disturbance. Betty Seddon commented that there are already areas set aside for water skiing. David Lawrie reported that the Auckland Unitary Plan includes the mapping of shorebird roosts but there are no rules that allow Auckland Council to control Kitesurfing. There is also a proposal to change urban / rural boundaries allowing property development close to the foreshore. There are major threats to shorebird roosts in NZ including the expected growth of the Auckland population by 1 million people in the next 20 years. Phil Hammond commented that, on one occasion, Number 3 shellbank at Kidds was covered in Kitesurfing gear and that kitesurfers were unwilling to change their behaviour. Gillian Vaughan proposed an amendment – that this AGM asks MNT Council to investigate the issue of bird disturbance caused by kitesurfers – CARRIED. The substantive motion (thus amended) was also CARRIED.

BioBlitz. Congratulations to all concerned with the Bioblitz. Have we kept records. Gillian reported that there is a species list and a number of species and that it has all been documented. Now we need to examine the information and decide what it means. Arising from the Bioblitz there will be a student from Massey University (supervised by Phil Battley) who will visit Miranda to study Wrybill feeding habits.

Water. Stuart Chambers suggested that the current water shortage could be solved by sinking a bore. We currently have three water tanks at the Shorebird Centre and we are considering installation of another tank. Stuart reported that there is a bore on the 11-ha block and that we could run a pipe from it to the Centre. Gillian Vaughan responded that this idea will be considered as part of the Building Project, which is now a responsibility of a sub-committee of MNT Council.

Building Project. David Stonex asked where funding for the Building Project will come from. Gillian responded that funding would come from grants and fundraising activity.

Facilities at the hide. Martin Day asked whether it would be possible to install toilet facilities at the hides. Gillian responded that it would probably not happen in the near future. David Lawrie added that the idea could be included in a joint project currently being discussed by Fonterra and the Department of Conservation.

Land. David Stonex asked what the Trust is planning to do with the 11-ha block of land south of the Centre. Gillian responded that this land is part of the overall plan for the Trust's activity but that there is no specific plan for it at present.

Stonex Instruments. David Stonex advised the meeting that he had brought samples of Kowa binoculars and telescopes and that he offers discount to MNT members.

The meeting closed at 10.48am.

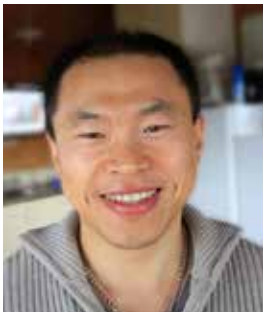
The 39th annual general meeting of the Miranda Naturalists' Trust will be held at the Shorebird Centre at 11am on Sunday May 25

Annual Report from the Treasurer

Trust records a small deficit in 2013

I have enjoyed working with MNT for the second full financial year and the task of liaising with the auditor has been much easier this year. I regret that I was unable to attend many council meetings during 2013. However, I am involved with MNT's activities and communicate by email with council members, suppliers, centre manager, Keith Woodley and assistant manager, Maria Staples-Page.

First, let me review the complete picture for the 2013 financial year (all figures are GST exclusive unless stated otherwise). MNT recorded a $1,952 deficit compared with a surplus of $25,344 last year. The major difference was the level of donations. These totalled $22,917, well down from last year's $59,331.



Shop trading figures were very similar to the previous year. The field course and other training programmes recorded a healthy improvement. Accommodation income slightly increased.

The grant of $16,000 from the ASB Community Trust, which for the second year provided funding for Kris Wi to be at the hides over the summer months and to do predator trapping, was paid late so was recorded in the 2013 financial year.

Total expenses were up by 11.8% at $14,772 and reflected an increase in activities undertaken during 2013.

Keith, Adrian Riegen and Kris got a Sibson Award grant towards living expenses and a flight ticket for Kris so they could work in the Gulf of Carpentaria. Bird banding costs were up by $1,500. Printing an updated Membership Brochure resulted in increased Printing and Stationary costs.

New information signs were set up on the trail to the hides but the cost of $3,058 was met by a grant from Waikato Regional Council.

Building maintenance and Building-Kitchen supplies costs were up as we upgraded the water filters, repaired the fire alarm system and had to buy water to fill the tanks due to the dry summer in 2012/13

Insurance was up by almost $900. Telephone costs fell by 25% thanks to Alister Harlow reviewing our plan.

There are a few other points which should be explained: Keith Woodley's attendance at a WWF workshop in Hong Kong and a Wetland Management Centre in Korea was funded by WWF HK and a Ramsar programme. Alister Harlow attended the Taipei Bird Fair on behalf of MNT at his own cost.

My thanks go to the Centre's staff, Keith, Maria, who has expanded the shop's stock range, and Kris, who spent her time showing the birds to visitors and encouraging them to join MNT as members. Also all the volunteers who contributed their time to keep the Centre running and help with events, especially the Bioblitz held in February, and to work on projects, such as the new signage.

Thanks very much indeed to all our donors, both individuals and the ASB Community Trust and the Waikato Regional Council.

Charles Gao

STATEMENT OF FINANCIAL POSITION AS AT 31 DECEMBER 2013

	2013	2012
TRUST EQUITY	**1,085,627**	**1,087,579**
CURRENT ASSETS		
BNZ Current Account	8,786	9,134
BNZ Achiever Savings Account	55,070	50,063
GST Refund Due	59	412
Inventories	25,772	30,469
TOTAL	89,687	90,078
NON CURRENT ASSETS		
Property, Plant and Equipment		
As per Schedule (at Book Value)	797,067	803,668
INVESTMENTS		
Fixed Term Deposits		
TSB Term Investment (Sibson Award)	37,189	35,699
TSB Term Investment	206,039	199,493
TOTAL	243,228	235,192
TOTAL ASSETS	**1,129,982**	**1,128,938**
LESS LIABILITIES		
CURRENT LIABILITIES		
Accounts Payable	12,041	8,771
Employee Leave Liability	1,091	-
Life Membership Reserve	9,030	8,422
Accruals - Subscriptions in Advance	7,965	9,139
Unspent Grants Income - Muddy Feet	11,228	11,228
Field Course fees - Received In Advance	3,000	3,800
TOTAL	44,355	41,359
TOTAL LIABILITIES	**44,355**	**41,359**
NET ASSETS	**1,085,627**	**1,087,579**

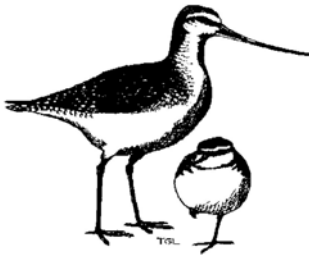
The 39th annual general meeting of the Miranda Naturalists' Trust will be held at the Shorebird Centre at 11am on Sunday May 25

STATEMENT OF FINANCIAL PERFORMANCE FOR THE YEAR ENDED 31 DECEMBER 2013

	2013	2012
INCOME		
Sales	87,806	89,379
COST OF SALES		
Opening Stock	30,469	31,354
Purchases	42,091	46,962
	72,560	78,316
Closing Stock	25,772	30,469
Cost of Sales	46,788	47,847
GROSS PROFIT	41,018	41,532
Gross Profit %	46.71%	46.47%
INVESTMENT AND OTHER INCOME		
Interest	8,901	9,774
Subscriptions	16,746	16,338
School Tours & Lectures	1,097	2,285
Field Course profits	7,966	3,378
Accommodation	20,726	19,000
Land Lease	4,800	4,800
Grants	16,000	4,500
Donations	22,917	59,331
Project Income from DOC	7,000	-
Other Income	738	-
TOTAL	106,891	119,407
TOTAL INCOME	**147,909**	**160,939**

	2013	2012
EXPENSES		
General operating expenses		
ACC Levy	283	534
Bird Banding Expenses	2,524	1,005
Cleaning	2,805	2,661
Magazine Distribution	3,278	5,189
Magazine Publication	9,180	7,883
Power	3,486	3,563
Predator Control	942	1,304
Project Costs - Bio Blitz	2,726	-
Publicity	1,571	3,703
Sibson Awards Scholarship	2,500	-
Wages	83,486	75,881
TOTAL	112,781	101,723
Repairs & Maintenance		
Buildings	2,900	2,434
Furniture & Fittings	50	-
Grounds Maintenance	835	752
Kitchen Supplies	2,651	350
Plant & Machinery	403	-
TOTAL	6,839	3,536
Administration Expenses		
Auditors Fee	3,535	3,485
Computer Expenses	86	-
Postage	457	-
Printing & Stationery	4,486	1,836
Telephone	1,022	1,568
Website Design	2,423	5,984
TOTAL	12,009	12,873
Standing Charges		
Bank Charges	3,388	3,565
Insurance	3,701	2,816
Rates	1,484	916
TOTAL	8,573	7,298
TOTAL CASH EXPENSES	**140,202**	**125,430**
NET CASH SURPLUS	7,707	35,510
NON CASH EXPENSES		
Depreciation	9,177	10,166
Loss on Sale of Fixed Assets	482	-
TOTAL	9,659	10,166
NET SURPLUS (DEFICIT)	(1,952)	25,344
NET SURPLUS (DEFICIT) TRANSFERRED TO EQUITY	**(1,952)**	**25,344**

MIRANDA NATURALISTS' TRUST



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Miranda Naturalists' Trust Council

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09 814 9741
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emlynp@actrix.co.nz
Treasurer: Charles Gao
charlesgao69@gmail.com
021 2674 919
Council members: David Lawrie (Immediate Past Chair), Estella Lee, Wendy Hare, Eila Lawton, Emma Pearson, Bruce Postill, Trudy Lane, Ann and Ray Buckmaster

Miranda News

Miranda Naturalists' Trust publishes *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.

Editor: Jim Eagles
eagles@clear.net.nz
(09) 445 2444
021 0231 6033

See the birds

Situated on the Firth of Thames between Kaiaua and the Miranda Hot Pools, the 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. 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: Beds cost $20 per night for members and $25 for non-members. Self-contained units are $70w for members and $95 for non-members. For further information contact the Shorebird Centre

Become a member

Membership of the trust costs $45 a year for individuals, $55 for families and $60 for those living overseas. Life memberships are $1300 for those under 50 and $750 for those 50 and over.
As well as supporting the work of the trust, members get four issues of MNT News a year, discounts on accommodation, invitations to events and the opportunity to join in decisionmaking through the annual meeting.

Bequests

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

Want to be involved?

Friends of 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 Maria Stables-Page 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 OSNZ and held twice a year, the census days are a good chance to get involved with ongoing field work and research. This year's is on November 4. 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 great photo send it in to *Miranda News*. If you want to discuss your ideas contact Jim Eagles at eagles@clear.net.nz.

Help in the Miranda 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 and call it your own or feel free to take up any garden maintenance you can see needs doing.

Flight of the Kotuku

These photos of a white heron at Miranda come from Tang Teng Onn who said he heard through a friend that the magazine was looking for pictures. “Its size and pure white plumage make it an unforgettable sight and its confiding nature makes it easy to photograph.”

If you’ve got photos you’d like to see published in *Miranda News* please email them to eagles@clear.net.nz

Published by the Miranda Naturalists’Trust, 283 East Coast Road, RD3 Pokeno, New Zealand 2473