MIRANDA NEWS

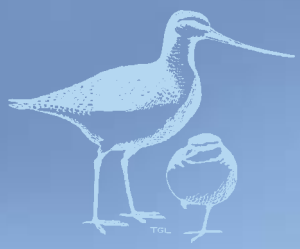
Naturalists' Trust

August 2006 Issue 62

A Winter Dunlin

Update: the Shorebird Site Network

A Risk Assessment Model for the Firth



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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. Drop in to investigate, or come and stay a night or two. The Centre has three bunkrooms for hire, plus two self-contained flats. For rates see Back Page. 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.

Front Cover: A Shore Plover on the Chatham Islands. Photo Robin Bush. Historically Shore Plover were found around most of New Zealand, the last records from the mainland are from the 1870s. They frequented sandy shores around the mouths of streams and rivers and appeared to migrate to the northern harbours during the non-breeding period. Buller recorded them in flocks in spring and autumn in the Manukau Harbour, the Thames River and Tauranga Harbour noting that they roosted with godwits.

Back Cover: A New Zealand Dotterel at Miranda. Photo Nigel Milius The Yellow flag shows that it comes from the Bay of Plenty. In 2004 and 2005 it was attempting to breed at Taramaire.

A word from the editor

This issue is very different from the last one. May had a number of high profile stories. But visits from overseas do not appear out of nowhere, nor do they stand in isolation from the rest of the work of the Trust. Two articles in this issue look at the framework which backs up shorebird conservation. One has an overseas perspective, looking at the structure the way groups work together on the Flyway. The other looks at work that is happening on the Firth of Thames, identifying the risks to the environment so that they can be better managed. Its a different side of conservation that is rarely as high profile as the field work. But nonetheless it must be understood if we as a group want to effectively contribute to conservation.

I'd like to thank those who send me emails and notes saying that they enjoy the magazine. Its nice to know which bits people like the most as then I can try and do better. If you've got something you'd like to contribute from a paragraph up please contact me! The deadline for the next issue is 20 October.

Gillian Vaughan

Christmas is coming...
A Miranda Calendar is being planned for the 2007 year with photos from Miranda regulars such as Brian Chudleigh, Bruce Shanks and Phil Battley. Details are not yet finalised, but will be put on the website when finalised, or you can call the centre for details.

Upcoming Events

August 19 5:30pm onwards
Winter Potluck Dinner
NEW SPEAKER
Adrian Riegen and Keith Woodley on the 2006 Yalu Jiang and Korea trips.

August 20 10:00am
Working Bee
Annual Cleanup of the Shorebird Centre - come to the potluck dinner and stay overnight or come in the morning.

September 12-14
NZ Dotterel Course
For those involved with dotterel protection as volunteers or professionals. More details from the Centre.

October 15 10:00am
Welcome to the Birds.
The Arctic migrants return!
Guest Speaker to be announced.

October 28-29
Wader ID Weekend
Learn some of the intricacies of identification

NOT ON YOUR CALENDAR
November 18-19
The art of botanical drawing Workshop with Sandra Morris

For Further Course Details see Page 22

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from the MANAGER

For seven consecutive mornings in late June the ground lay frosted, the longest spell I can recall at Miranda. Two frosts were particularly severe, briefly freezing the water pipe into the cottage. At the same time much of mid Canterbury remained buried in snow, while elsewhere in the South Island a series of fronts brought chill mayhem. Yet once again some oystercatchers appeared to be above such considerations. Late one cloudless afternoon twelve birds assembled high above the paddock immediately south of the centre, their shrill calls carrying a considerable distance, and set course for the south. As I have noted before, one must assume these creatures know what they are doing. This departure, on 26 June was the first I recorded for the year.

Over summer and autumn the paddocks immediately north of the centre were planted in corn. Shortly after this was harvested and the land harrowed heavy rain produced an extensive area of prime wetland. Into this birds quickly descended. For a few days it became commonplace to see the usual habitués of such ephemeral habitat – gulls, SIPO, stilts, a few Spur-winged Plovers and some godwits. On one occasion however it became a major roost with several hundred godwits, over 100 knots, Banded Dotterels and a few Wrybills there as well. In my experience it is generally uncommon to find knot and Wrybill in such places.

In early May a Bittern was a regular presence in the vicinity of the centre. On three consecutive evenings, just on dusk, it was observed flying out of the paddocks behind the cottage and into the pond areas across the road. This commute was seen on two other occasions over the next week, always at around the same time. Like clockwork in fact.

A White Heron has also been regularly using the tall tree stump over our southern boundary as a roost. Sporadic sightings of Banded Rail within the centre grounds throughout the winter indicate they are still associated with Widgery Lake.

Filters for drinking water have been installed in all three kitchen areas at the centre. While we were generally confident in our water supply, there has been growing disquiet around the country about the quality of roof-collected water, and installing filters was seen as a sensible course of action.

Another planting day in the mistletoe enclosures was held on 7 June. ARC botanical gardens and DoC staff along with several community members planted hundreds of flaxes, cabbage trees and a few ribbonwoods. The mistletoe expansion programme has begun, literally, to bear fruit. Several mistletoes have established on hosts within the enclosure, while one has established immediately inside our gate.

Surplus cabbage trees and flax plants from the last Arbour Day plantings are available at the centre for anyone to take away.

The main trail down to the hide has been fully repaired. Tidal erosion over the last two years had created two significant breaches, presenting considerable obstacles on the northern approaches to the hide. While in most circumstances the section was still negotiable, it was an unsatisfactory situation. Several truckloads of fill were used to repair both breaches and build up the embankment along which the trail runs. It is hoped this will survive for a long time to come.

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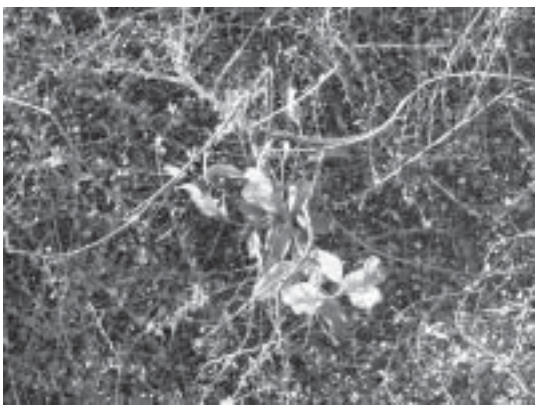
It is always good that *Miranda News* receives much favourable comment and the last issue was no exception. The items on China and Korea seem to have struck chords with many people which is particularly satisfying as it suggests there is much interest in the work the Trust is pursuing along that part of the flyway. Perhaps inevitably, given the scale and gravity of the situation, the Saemangeum reclamation generated the most discussion.

A New Zealand secondary school assembly hall packed with staff and students is not a common haunt for me these days. Indeed my visit to Hauraki Plains College in mid June had me recalling my previous time in such surroundings. On that occasion the venue was Invercargill and the time was more decades ago than seems comfortable. It was my last year of school and my sights were already fixed on a horizon as far away as could be arranged! But one's horizons in life are by no means fixed. Last April I had stood before several classes of college students in northern China. Now my presence in this hall in Ngatea was directly related to those visits. I was here to make a presentation about our work in China and to outline a proposed sister-school link between Hauraki Plains and Gushan Middle School at Yalu Jiang.

This initiative has been warmly received by both schools. We are keen to assist in any way possible, but it will be up to each school to maximize any opportunities presented through such a link. It is envisaged that a short term teacher exchange may be the first tangible step. This would be an ideal way of creating the initial personal links that our own experiences in China have shown to be absolutely essential for any meaningful and ongoing partnership.

Keith Woodley



The new mistletoe established at the gate. Photo Keith Woodley

Top *The Dunlin in breeding plumage showing the relatively short but thick down curved bill, the dark orange chestnut back, whitish face and neck and black belly patch. The wing coverts are so worn that only the shafts of the feathers remain at the tips. Also note the unmarked white flanks and a single fine dark streak under the tail. Photo Ian Southey*

Middle Right *The Dunlin as first seen at Kirk's. There are enough new feathers on the back and belly to make the identification easy. Photo Phil Battley*

Upper Middle Left *Most Dunlin subspecies have longer and heavier dark streaking right across the breast and down to the belly patch than this bird. Photo Ian Southey*

Lower Middle Left *Not much of a picture but it is clear that there is no white on the 8th primary (see arrow) showing that this Dunlin probably belongs to the subspecies* sakhalina *and not* arcticola*. Photo Ian Southey*

Bottom *A comparison of the jizz of the Dunlin with a Curlew Sandpiper behind. The Dunlin has a larger high crowned head and hunched back while the Curlew Sandpiper has a more elongated body and a longer, finer bill. Photo Ian Southey*

A Dunlin on the Manukau.

Discovery

While checking roosting waders for bands at Kirk's mudflats on the Manukau on April 15th, Tony Habraken spotted a gingery backed sandpiper running around at the back of the flock. By the time he had finished the bird had gone and he couldn't be sure what it was. But news travels fast and David Lawrie went to sort it out on the 18th along with Jenny Hensley and myself. He picked a horrible day but when I joined them after a particularly nasty squall of rain they had already found the bird feeding on the wet mud with Wrybill at no great distance. Identifying the bird as a Dunlin (*Calidris alpina*) was easy. It was moulting into breeding plumage with a distinctly orange cast to the cap and mantle and black blotches on the belly. It seemed very hungry and fed busily right across the mud flat for most of the time it was there. Once it called when taking flight, a long slightly trilled "chirrreep".

Interest peaked on the 21st when nine eager twitchers were lined up at Kirk's looking for it in much better weather. It wasn't there but a late dash to the nearby Kidd's shellbanks produced the bird with a small flock of Wrybill. That was the last time it was seen for over a month. It was thought to have migrated with most of the other small sandpipers but Tony found it again on May 28th at Kidd's and it was in spectacular breeding plumage. The Dunlin has been well settled there since and usually roosts with the Wrybill – in every way the bright spot in our winter wader flock.

Identification

Compared to many Dunlin pictures ours seems a brightly marked bird with a dark orange chestnut back with very small dark centres to the feathers and whitish face, neck and breast with short fine and notably pale grey streaks becoming black toward the shoulders. The belly patch is large and solid with a few fine white tips to the feathers and the sides, under wing and under tail coverts are pure white. It has wing coverts that have been abraded to the shafts at the tips and very tatty ends to the primaries (the large outer flight feathers). Although the wing feathers of young and adult birds grow at about the same time in the subspecies of Dunlin bordering the Pacific, the primaries of young birds are less robust and wear more quickly than adults. The extreme wear suggests that this bird is at the end of its first year.

Even with only traces of breeding plumage a Dunlin is not hard to identify. At other times of year though it is another drab, medium-sized sandpiper. They are most like Curlew Sandpipers as both species have a black down curved bill. To really distinguish them is best to see the pattern on the rump which is white with an obvious dark stripe running down the centre on a Dunlin but fully white in Curlew Sandpipers. In addition this Dunlin has a very obvious white wing bar, fairly broad and stretching along the secondaries and inner primaries breaking up on the outer primaries, which makes a flashy contrast to the more commonly seen sandpipers. There are the white tips to the innermost secondaries that can be seen as small white marks on each side of the body even when the wings are folded when the bird is feeding if viewed from directly behind.

In comparison to Curlew Sandpipers, Dunlins have a deeper bill, especially toward the tip. It also has a distinctively dumpy jizz with a large high crowned head and a rounded back tapering abruptly to the tail and shorter legs in contrast to the slender elegance of a Curlew Sandpiper. At rest the primaries of a Dunlin are said to be about equal to or shorter than the tip of the tail while the primaries of a Curlew Sandpiper should be definitely longer. Observing this Dunlin, they sometimes seem both shorter and longer, but not by much. The pattern on the face is generally said to be plain. When first seen this bird had a very indistinct pale eyebrow that went as far back as the eye and a darker stripe from the base of the bill to the eye but they have virtually vanished in breeding plumage. Curlew Sandpipers have similar but bolder facial markings.

Subspecies and origins

The series of ice ages during the Quaternary Period have had a strong influence in the evolution of birds in the Arctic. It has left an evolutionary imprint in the ten recognisable subspecies of Dunlin spread around the Arctic Circle. In non-breeding plumage they are very hard to distinguish but there are plumage differences between breeding birds. This give us a chance to determine where this particular bird came from.

The least likely subspecies to occur here are the most easily discounted. They are *arctica* from western Greenland, *schinzii* from Iceland to Western Europe and *alpina* from northern Scandinavia to the Yenesei River Delta in Siberia. These Dunlins are small ,with strong differences between males and females, and moult their primaries on the non-breeding grounds. More practically they generally are a not particularly bright cinnamon colour on the back, have a buffy wash on the head and neck and have a small and often incomplete black patch on the belly.

Further to the east Dunlins have an unusual moult pattern, shedding their primaries while they are breeding so the adults migrate south on either new or a combination of old and new primaries. The eastern most of these subspecies is *centralis* which breeds in Central Siberia east of the Taymyr Peninsula. It is similar to *alpina* with few visible differences.

Of the remaining subspecies, there is most information available for the American forms which have the darkest and reddest backs of all. The most easily discounted is *hudsonia* from the Canadian Arctic with clear black streaking or spots in the white areas on the flanks and under the tail and heavy dark streaking on the breast right to the belly patch. Another, *pacifica* from western Alaska has a comparatively long bill and longer, darker streaks on the breast. The last, *arcticola* from Northern Alaska, is the most similar of these three to the Manukau Dunlin having a shorter bill and a paler breast,

especially in the centre with notably short, fine streaks and deserves more detailed consideration.

Along the Pacific Coast of Siberia are three subspecies, *sakhalina* from Chukotka, *kistchinski* from the Sea of Okhotsk and *actites* from Sakhalin Island, the last two have only recently been described. They tend to have a more yellowish tint to their backs than the American forms with the least difference in *sakhalina. Sakhalina* also has less breast streaking, less black on the crown and smaller black centres to feathers on the back and, in all of these features, has a resemblance to *arcticola* and to the Dunlin on the Manukau.

Seeking an expert opinion Bob Gill, Pavel Tomkovich and Julian Greenwood were sent pictures of the Manukau Dunlin and agreed that it was either *arcticola* or *sakhalina* but declined to distinguish between the two. The two subspecies have not long been widely accepted as different until the argument was cliched by DNA sequences. The usually published plumage differences are that *arcticola* has more white on the outer edge of the 8th primary feather and a more reddish tone to the back which has been described as a "darker rust colour". There is often some dark streaking under the tail of *sakhalina,* but not on all birds, while it is absent in *arcticola*. Additionally, the original description of *arcticola* noted the "throat and breast more heavily streaked" than *sakhalina* and that the difference in back colour is only an average difference.

Looking at the Manukau Dunlin the back seems like the "darker rust colour" described for *arcticola* but there is no objective reference to distinguish the tones and the difference is not absolute. There are a few inconspicuous fine dark streaks under the tail on appearing on photographs but the general appearance is clean and white. The streaking on the centre of the breast is fine and definitely grey whereas photographs of *arcticola* show crisp black marks, and this may indicate *sakhalina*. In photographs showing the outer primaries there is no white on the eighth primary (third from the outside) although there is a fine white edge to the seventh primary where it emerges from the coverts. While this feature may be affected by wear, which is considerable, it is difficult to see how the bases of the eighth primary would be substantially more worn than the bases of the seventh. This is the most objective distinguishing feature and consistent with most other characters so it seems most likely that this Dunlin is *sakhalina* from the extreme north-eastern corner of Siberia.

Ian Southey

Footnote

In addition to the four Dunlin records in the Field Guide, another was seen by Tony Habraken at the Limeworks, Miranda on 24/10/94. The distinctive bill, dumpy jizz and a mottled black belly patch were noted (Tony Habraken pers. comm.).

Acknowledgements

I need to thank Nils Warnock for scanning and sending an extensive library on Dunlin taxonomy and Bob Gill, Pavel Tomkovich and Julian Greenwood for passing on their opinions. Tony Habraken, Phil Battley and David Lawrie have also helped to provide information.

Reverse Migration - why is the Dunlin here?

Vagrants are often a source of speculation among birders. Many of the less common waders that visit New Zealand may be just at the edge of their normal wintering range or have slightly overshot their normal non-breeding sites in Australia. Often vagrant birds are said to be associated with bad weather, especially being pushed off course by strong winds. Studies of vagrants in America have suggested that weather effects are limited to relatively local birds while longer distance vagrants seem independent of weather. It is thought that they have made systematic navigation errors, flying determinedly in the wrong direction. In Europe the effect of weather has been shown to be much greater but birds there make straight navigation errors too.

Breeding experiments show that there is a high degree of genetic control of the onset, duration and end of the migration period, the direction to travel, including necessary turns. Some of this information may not be inherited correctly sending birds off course while environmental effects may also obscure key cues. The most common mistakes are mirror image errors where the bird turns left instead of right or vice versa at key points, others show a 180° switch in direction while the remainder seem scattered. Misdirected migrants often travel further than they normally would suggesting that termination cues can be confused.

The current Dunlin is particularly interesting because it was first seen during the period when migrants were actively moving away from New Zealand. It might have spent the summer quietly at Kirk's but very high tides cover this roost forcing the birds that use it to use the nearby and more commonly watched shellbanks at Kidd's, Clark's or Mangere. In addition Tony Habraken considered that it was particularly thin when first seen but has steadily improved in condition. Rather than remaining hidden all summer it may have made a navigation error. The normal non breeding sites for the various subspecies of Dunlin on the East-Asian Australasian Flyway are spread between Vietnam and Japan with New Zealand more or less south of the breeding grounds. If a Dunlin flew south and east from its non-breeding site instead of north and east it would find New Zealand somewhere near its flight path at a similar distance to the breeding grounds or a little further.

While this is probably not the only way such extreme vagrants reach New Zealand, the timing seems suggestive in this case. Among the other records of Dunlin in New Zealand there is one that appeared at Kidd's in June 1979 in full breeding plumage and remained there until September which may have arrived in a similar way. It will be interesting to see how long this Dunlin stays.

Ian Southey

NEW MNT COUNCIL MEMBERS

At the AGM in May two new council members Phil Hammond and Wendy Hare were elected. Nigel Milius left the council.

Phil Hammond

I was born in Canada but left as a baby and grew up in a small village in rural Norfolk. With no TV but surrounded by adventures in nature I developed what Norfolk people call a "countryman's eye" i.e. I learned to notice small details in nature.

My family emigrated to NZ in 1961 and for the next 30 years my time was mostly occupied with football, a young family, and climbing the corporate ladder in a multinational, but I never lost my interest in birds and nature, and always owned a pair of bins. In recent years I've had a less demanding occupation and have joined Miranda, Tiri, and OSNZ, and rejoined Forest & Bird which I've been an inactive member of on and off for about 30 years.

I'm an unapologetic 'twitcher' and get a thrill from finding a species I haven't seen before, but also participate in census of Kaipara, Manukau, Kaipara lakes, Tiri, and this year Firth of Thames. I also enjoy learning from the experts at cannon-netting expeditions, courses and talks.

Q & A

How many species of shore-bird are there, and how many do we see in New Zealand?

Worldwide there are approximately 214 species of shore-bird, 60 of these have been recorded in New Zealand (including our endemics). Of the 214 species 122 are migrants.

Adrian Riegen

Spartina Control at Kaiaua

In March 2005 vigilant Sue Moore discovered two patches of the invasive plant *Spartina* (or cordgrass) in a paddock on the northern side of the Kaiaua dairy.

Spartina is serious pest and a total control plant in many parts of New Zealand. With frightening ease it is able to spread from broken fragments to quickly become dominant, its dense rhizomes and fibrous roots trapping sediment to destroy the biodiversity of the intertidal zone, colonise mangroves and estuaries and it can eventually convert mud flat and mangrove habitat to dry paddock.

Spartina was planted by farmers to reclaim tidal mudflats and bare intertidal zones for grazing land and was first introduced to New Zealand from North America in 1913. In the Waikato/Coromandel Region, *Spartina* already occurs in most eastern harbours and a number of estuaries and mudflat areas on the western side. It also occurs in the Aotea, Kawhia and Raglan harbours and at Port Waikato on the west coast. Following discovery of *Spartina* at Kaiaua, all suitable sites between Whakatiwai and Miranda were checked but no other plants were found.

The Department of Conservation and Environment Waikato are anxious to prevent this plant establishing in new areas and it was controlled by DOC at the Kaiaua site, with the permission of landowners, during March 2006. Gallant®, a selective herbicide that only kills grasses (i.e. the *Spartina)* and would have no effect on the nearby mangroves, was used. Follow up spot spraying will be required again as there are bound to have been small pieces of rhizome, pugged into the soil by cattle, that will re-sprout.

If anyone sees *Spartina* or what they think may be *Spartina,* they're encouraged to report the site to DOC or Environment Waikato so it can be positively identified and controlled to protect the unique Miranda and Firth of Thames intertidal habitat.

Sharen Graham

Spartina *before control close to the Kaiaua dairy. All the grass in the picture is* Spartina. *Photo Phil Battley*

An Ecological Disaster in the Making, or a Battle of Wits between Conservationists and local Fishermen?

Red Knots, Horseshoe Crabs and a novice Kiwi volunteer on Delaware Bay, May 2006.

A chance conversation in January this year with Dick Veitch during the 2006 Miranda Residential Field Course brought about one of the most exhilarating 4 weeks of my life. This was the opportunity to join the international team of shorebird and cannon-netting experts in Cape May, N.J. on the final staging post of the Atlantic Flyway. Delaware Bay, bound by New Jersey and its long sand beaches of the Atlantic coast to the east and the state of Delaware to the west, may be seen as that flyway's equivalent to the Yellow Sea on ours. Our purpose: to monitor both numbers and condition of Red Knots and other migratory shorebird species at the major two week stopover en route from as far south as Tierra del Fuego on the southernmost tip of South America to the Arctic breeding grounds of northern Canada.

The drainage for the watershed area of northern U.S. Atlantic states east of the Appalachian chain of mountains empties into Delaware Bay and the larger Chesapeake Bay a couple of hundred kilometres to the south. Yet somehow it is the rivers and estuarine environment of Delaware Bay that provides the specific habitats required for the Arctic migrants. Again, like the challenges facing the area of northern China and Korea around the Yellow Sea, Delaware Bay's migratory shorebird visitors are not the only ones trying to exploit the area's unique riches. Other competing pressures of perhaps the most densely populated region of U.S. are providing ongoing challenges for the ecology and very survival of the subspecies of Red Knot known as *rufa*. Together with Ruddy Turnstone, Sanderling, various small sandpipers and plovers, these species depend on this single unique location coined by some as their "nutritional lifeline".

As they make their way from their southern hemisphere wintering grounds (a new term is "contra-nuptial quarters"), the arctic-bound knots must replenish after an exhausting non-stop 7000km leg from the initial stopover in Brazil. The need is to adequately increase body weight for the next and final stage so as to arrive on the tundra in the best condition to ensure breeding success. Last year's August issue of MNT News contained an excellent (and fair-minded) summary by Keith Woodley of scholarship to date on the biology of the Red Knot and the related ecological issues involving Delaware Bay. The ancient Horseshoe Crab, more closely related to a spider than any crustacean, is pivotal in this saga. The many millions of tiny eggs laid by the Horseshoe Crab are the main food source on which the Red Knot depends. These prehistoric-looking creatures also migrate from the ocean depths as waters warm and spawn each May with the high spring tides when the moon is full on the sandy beaches of Delaware Bay. And this is where the fishermen and commercial interests come in. They have a history too. Many of the once thriving villages of the north-eastern seaboard now lie dormant and economically disadvantaged with the traditional "watermen" contributing to the nation's unemployment statistics rather than a thriving local industry. After the 1980s' cod fishery on the north eastern U.S. was exhausted, companies turned instead to the humble Horseshoe Crabs, easy pickings lying upturned on the beaches in their hundreds of thousands. Then, in the early '90s before controls were placed on the catch, eager fishermen came in droves and loaded with pitchforks truckloads of this fodder, bait for the lucrative conch and eel industries. Not surprisingly, numbers of this primitive creature began to dramatically decline, and by the end of the decade those too of the Red Knot. In the 1980s on the Delaware coast in the order of a hundred thousand, counts of this species have plummeted, now "in danger of being extinct by the year 2010", according to one population model.

Knots, more knots and Horseshoe Crabs. Photo Geraldine King

Or is it? (Although I have no doubt that such mathematical modelling has indeed been performed, I have taken the above quote from an evocative, and strongly pro-conservation feature from the Baltimore Sun newspaper. Published in June this year, their journalists accompanied our group on one of our last days of cannon-netting and banding in May.) A fight is on and political it is, with state and federal legislation to control this fishery being negotiated, enacted, overturned then re-negotiated with conservation groups from all over the U.S. quoting "science" to state their case to the Atlantic States Marine Fisheries Commission in early May this year. Certainly Red Knot numbers passing through Delaware Bay are now indeed well below the 20,000 mark. I was lucky enough to be included to count one beautiful balmy evening on the night roost site on the Atlantic coast side of the Bay, an assembly of what three of us agreed after our separate reckonings was 16,000 Red Knot. This spectacle, which in my euphoria I could not help comparing to a Biblical "heavenly host" (and this thought then interfered with my counting no end!) turned out to be the final estimate of Red Knots in Delaware Bay 2006.

So if there is without doubt such a decline, how do we prove it as a direct effect of crab over harvesting? Prove it we must, those of us "outsiders", novice volunteer and "expert" scientist alike; we lucky enough know the luxury of overseas travel to enjoy something of the magnificent biodiversity still remaining on our planet, the continuation of which we would obviously support. And prove this to the "locals" who just know their communities and futures have changed, whilst others simply feel irritated that "their" beaches are closed during the pleasant mild spring days just when the dog and the grandchildren are feeling restless for a seaside scamper.

Such is the background to be absorbed as one sets foot on arrival into the already bustling "headquarters" (a summer rental precariously perched over the waters of Reeds Beach) of the Delaware Bay Shorebird Project. Administered by the Endangered and Non-game Species Program of the New Jersey Fish and Wildlife Service, the Project has a small number of employed staff as well as the greater multitude of volunteers many of whom bring considerable expertise. Americans are certainly in the minority! Our own Dick Veitch is a founding member of the Project. As well as processing the huge amount of data collected, Dick contributes his enormous experience and skills acquired from running banding programmes over many years for DoC in New Zealand. The team, formed in 1997 subsequent to commencement of research headed by ex-pat New Zealand Professor Allan Baker from Toronto, and his Argentinean colleague Professor Patricia Gonzales, has drawn in further expert assistance from others well known to the world of wader studies: Clive Minton of Australia, pioneer of cannon-netting, and a lively band of leading academics from as far afield as the U.K., and Taiwan this year to mention just a few.

So how did a first time volunteer and non-biologist cope amongst such eminent company? The excellent tuition of the Miranda field course, consolidated by further instruction in cannon-netting with Adrian Riegen and the banders from the NZ Wader Study Group, not to mention a cold mid winter census or two on the Manukau Harbour had all combined to make for good preparation. In addition a two week vacation to Florida immediately beforehand, with shorebird migrants eagerly sought out at every occasion, not to mention last (austral) winter's trip to the breeding grounds in Alaska in July '05 had given just enough familiarity with the North American species. So, armed with a pack on my back, and as usual a borrowed 'scope slung over my shoulder, I was kindly met by Dick off the ferry from Delaware and soon after sent off to scan the legs of Sanderlings as they darted in and out of the waves along the beach just up from the house. These tiny birds are amongst the first migrants to arrive, and I soon realised reading alphanumeric flags on these fast little legs takes a great deal more patience than on a stationery colour-banded godwit in good light at Miranda.

The knots and the Ruddy Turnstones also had to be scanned when they arrived. And so I joined the team of "scanners" who covered the beaches on the New Jersey side of the Bay known to be frequented by our target species during daytime feeding hours. These beaches are closed to the public during the three weeks of migration as just one of several means of protecting the birds. Armed with my "permit", a good pair of boots on my feet as well as gaiters to make it easier to push through the thick reeds along the coast (I too did not wish to disturb the birds) I would set off each morning to catch either side of the high tide when the birds would be feeding. The purpose each day was to record as many band sightings as possible. Each evening I would enter this data on computer, later to be compiled by others and used by the very researchers to petition for further protection for these birds. Allan Baker and his team have now banded birds in southern Chile, Argentina as well as Brazil, thus an increasing body of knowledge about these species is being assembled. How important not to miss a rare Chilean red flag, nor to mistake the letter combination!

The other aspect of my work was that of the cannon-netting, and processing and banding the catch. I did not let on that I have yet to get this task at Miranda, but invariably I was given the job as "twinkler". Kiwi willingness to walk through water of any depth, be it a muddy creek swirling with Horseshoe crabs coming in on the tide to spawn or whatever may be the requirements. So radio in hand, I would set off through the reeds to sneak into my position. The instruction would soon come to put the birds up (it is remarkably easier to catch on the Jersey shores than what I was used to from home with our fickle birds and tide heights) whereupon that part

The recording device used for following knots with radio-transmitters

of my job was usually done. "Three two one fire!" over the radio and the characteristic boom, meant a quick sprint back to the catch area to join the crew to weigh, measure and band for the next several hours. After a week or two at this, I thought I was getting slick, and could keep my numbers of flagged birds up if I tried to combine both twinkling and scanning, something that seemingly had not yet been attempted by others. So as we prepared for the catch that day, knowing exactly where my desired birds would be, I set off (without listening to instructions) with radio in one hand and telescope over the other shoulder, and recording pad down my shirt so as not to get waterlogged as I crossed the invariable creek. I was happily positioned noting down flags and at the same time giving information over the radio about what birds I had and what was moving this way or that. None of which seemed to make a great deal of sense to the team at the net, nor to me when their responses came back. "Where exactly are you, Geraldine. Over??" Wrong end of wrong beach!!! A mad dash through mud and reeds managed, just!, to get me back into position before the tide came in and our window of opportunity to fire faded for the day.

Fearing I too would be fired and thus strategy rethought to redeem myself, I threw myself into less high profile tasks such as organization of trash, washing dishes and cleaning of bathrooms. In the house, the camaraderie was top notch and what could be learned about wader behaviour and biology from other members of our team was better than any number of hours spent with the "Wader Study Group Bulletin" by one's bedside. The opportunity to meet others so passionate and dedicated to the cause of conservation, the chance to take part in research that may ensure the survival of a species, but most of all the privilege of being close to such spectacles of vibrancy and vitality of Nature has truly made this one of the most memorable months of my life.

Geraldine King

The Firth of Thames - what are the risks?

An initial overview of relative sources of stress on the environment

As reported in Miranda News 60 a Relative Risk Assessment Model to investigate multiple risks to the ecology of the Ramsar site in the southern Firth of Thames has been developed. Application of the model is the first phase of the multi-agency collaborative 'Muddy Feet Stage II: the Firth of Thames Ramsar site' project, co-ordinated by Environment Waikato and Franklin, Hauraki and Thames Coromandel District Councils. A summary of initial results has been prepared by Malene Felsing of Environment Waikato, and Ibrahim Elmetri of Cawthron Institute.

The project aims to identify key risks to the Firth of Thames Ramsar site, and to prioritise action to ensure the future sustainability of the site. The primary objectives of the application of the Relative Risk Assessment Model (RRM) to the Ramsar site are:

- To assess the relative threat posed by different risk sources, and their associated stressors, to selected ecological values of the Ramsar site and surrounds.
- To assess the relative risks posed by stressors arising from multiple sources to selected critical ecological values of the Ramsar site and surrounds.

The RRM is an analytical tool, which can be used to help decision-making. The process adapted for the Muddy Feet phase II project was to use the RRM as a framework for a series of workshops discussing potential risks to the Firth of Thames Ramsar site. All known information was integrated into the RRM, which was used to predict the risks to the Ramsar site from various stressors and sources.

The RRM can utilise both precise information and estimates to rank the likely effects of different activities or stressors (e.g. nutrient runoff from agricultural land use) on various parts of the environments (e.g. intertidal area). Thus, all information available can be integrated into the model, and the model output provides an overview of the relative importance of different risks to the values identified by stakeholders (e.g. birds, fish and vegetation). This makes the model a valuable and cost-effective tool to facilitate the decision-making processes by management agencies. In particular, it provides an initial low effort overview of relative sources of stress on the environment which can be used to focus later efforts, through direct management actions and/or determining where more information is required.

Collaborators on the project include the four District Councils within the catchment draining into the southern Firth of Thames (Franklin, Hauraki, Matamata Piako and Thames Coromandel District Councils); Environment Waikato and Auckland Regional Council; the Department of Conservation and the Ministry of Fisheries. Representatives from these agencies participated in workshops

where ecological values of the Ramsar site and surrounds were identified, as were stressors and sources of stressors that may threaten the site. A workshop was also held for members of the community, where values of the Ramsar site and threats to these were recorded. Miranda Shorebird Centre was the venue for these events, and MNT is a key stakeholder in the process.

These discussions were essential for the RRM-building process. Once community and agency concerns were identified the RRM was constructed around them.

The terrestrial nutrient and sediment loads contribute the major environmental risk to the Ramsar site.

Initial results

The high risk score predicted from agricultural land use is not surprising considering the extensive dairy farming that dominates the region. The terrestrial nutrient and sediment loads contribute the major environmental risk to the Ramsar site. This is perhaps best illustrated by the recent dramatic expansion of the mangrove forests, and changes in sea bed composition and water quality. These large-scale changes demonstrate the potential for terrestrial inputs to significantly alter the coastal environment at this site, and it is the future continuation of this trend that is cause for concern not only for the Ramsar wetland but for the entire Firth of Thames.

Nutrient enrichment generally leads to an increase in both phyto-plankton and seabed algal production, giving rise to a range of effects. Excessive algal growth (e.g. an algal bloom) results in a wide range of water quality problems, including the production of large amounts of particulate organic matter, which degrades and deoxygenates bottom waters, potentially leading to the death of benthic invertebrates and fish from lack of oxygen.

Sedimentation and siltation resulting from soil erosion also leads to multiple problems in the receiving waters.

- Siltation is often one of the major causes of water quality problems because of the associated reduction of light availability which in turn affects growth rates of phytoplankton and seabed algal communities in rivers, estuaries and bays.
- Sedimentation may have short and long-term impacts by reducing species diversity of bottom dwelling animals, thereby changing the structure of these communities.
- Sediments can also kill the bottom-dwelling animals and destroy their habitats through smothering. Suspended sediments consume oxygen from the water column due to chemical and microbial processes. This process can be enhanced by filter feeding animals, which process sediments and increase nutrient supply.
- A further impact of sedimentation is the change in chemistry associated with new mud deposits. Clay may temporarily lower the pH in seawater, which may free absorbed contaminants that are toxic to animals.

Agricultural activities can also introduce contaminants, such as heavy metals, to streams and coastal waters. For example, agricultural runoff could increase levels of cadmium (resulting from the application of super phosphate fertiliser) and zinc (due to the application of zinc based chemicals to control facial eczema in livestock) in coastal sediments. Dairy farm effluents contain high nitrogen and phosphorus concentrations and also various trace contaminants such as heavy metals, organic compounds, and other chemicals that may adversely affect biological processes.

The highest loads of nutrients, contaminants and sediments are often associated with seasonal or periodic flood events. The frequency of these flood events may change with global climate change effects, which is why climate change is predicted to be a large contributor of risk to the region. For example, New Zealand studies have shown that agriculture activities, particularly dairy farming (through denitrified nitrogen fertilizers and the animals and their waste), contribute 51% of the overall greenhouse gases emissions of New Zealand (e.g. nitrous oxide and methane). These studies have shown that nitrous oxide has increased by 2.2% since the year 2000.

Overall the application of the RRM to the Ramsar site was useful. The work confirmed that the RRM is a rapid, powerful, flexible and cost effective tool that can provide an overview of the relative risks to a site from multiple sources, generating outputs that resource managers can use to aid decision-making. The overall scope of this study was to establish the RRM as a tool for the Ramsar site management. This tool can be used, and expanded upon, by management agencies and other stakeholders. The RRM results are considered a starting point for discussion and a guide to prioritise management actions.

The Muddy Feet Phase II project will next proceed to identify priority actions to reduce key risks to the Ramsar site. What can be done to minimise each of the risks included in the model, and who should do it, will be compared to what management agencies are currently doing or have plans to do in the near future. Actions not covered by existing work programmes will be prioritised, as will be any information needs identified, and recommendations provided to all agencies involved.

A view of the Firth from the shellbanks. Photo unknown

"Why are we so involved at Yalu Jiang?"

The story so far of the Miranda Naturalists' Trust's involvement in China

THE SHORT ANSWER:

"It is highly likely that 90%+ of all Bar-tailed Godwit in New Zealand use Yalu Jiang as a staging site on their way to Alaska.

None of the work at Yalu Jiang would have happened without the input of the MNT and the willingness of everyone concerned at Yalu Jiang to make a difference."

The gaining of information...

The passing on of knowledge...

has to happen on an international scale

to protect our international birds.

THE LONG ANSWER

1979 Dick Veitch started wader banding at Miranda, banding Arctic migrant waders. Knots banded in 1980 were recovered on Sakhalin Island, Sea of Okhotsk, West Papua and Australia and so the New Zealand links with Asia began.

1986 Adrian Riegen and Stephen Davies took over the banding in 1986. More birds recovered in Asia meant Adrian was in regular contact with researchers in many countries and followed with interest reports from the flyway staging sites used by migrant waders; particularly reports from Mark Barter, who had been surveying the Chinese coast for some years.

1993 At the 1993 Ramsar conference held in Kushiro, Japan the issue of migratory waterbirds and shorebirds in East Asia – Australasia was raised for the first time due to work done at a 1993 Japan–Australia Migratory Bird Agreement meeting. It was agreed that a further workshop should be held to discuss the issues and plan the Asia - Pacific Migratory Waterbird Strategy and Action Plans.

1994 That workshop was held at Kushiro in December 1994. Government and NGO groups from all 22 countries and territories on what was to become known as the East Asian-Australasian Flyway (EAAF) were invited. Government representatives attended from all countries and territories except New Zealand. Adrian Riegen was New Zealand's sole representative, there on behalf of the MNT. At this meeting recognition of the EAAF was formalised and plans to form a network of shorebird reserves sites was launched.

1996 A shorebird conference in Brisbane in 1996 ratified the EAAF Shorebird Reserve Network. Sites were to be selected using the Ramsar criteria of 20,000+ birds or a minimum 1% of a species total flyway population. Sites would be jointly managed by government agencies and local community groups. The meeting was attended by Adrian and Keith Woodley from the MNT as well as representatives of the Department of Conservation. New Zealand signed up to the Shorebird Reserve Network and designated two Ramsar sites for the network. Farewell Spit and the Firth of Thames.

1997 Nick Smith, Minister of Conservation launched the Firth of Thames Ramsar site on 16 March 1997 with the MNT as the local community group partner.

1999 Mark Barter and Jim Wilson from Australia conducted the first survey shorebird survey of the Yalu Jiang National Nature Reserve (Yalu Jiang) and found large numbers of Bar-tailed Godwits. Mark had been

systematically working his way round the Yellow Sea surveying, often for the first time, for shorebirds.

2000 Adrian, with a grant from Cathay Pacific, flew to China to join Mark Barter to undertake the second survey of the Yalu Jiang. A further meeting was held in Australia in 2000 to develop the Shorebird Reserve Network, Adrian and Keith attended. Keith and Bruce Postill later attended a Site Managers meeting in Victoria.

2002 Adrian (funded by Environment Australia) joined Mark Barter again to survey 100km of the Bohai Wan coast that had never been surveyed for shorebirds before *(seee Issue 46)*. While there Adrian was looking for ways to establish a role for the MNT in Asia, as protecting shorebirds in New Zealand seemed of little value if they were hunted and the habitat destroyed in Asia. Concurrently a shorebird banding training workshop was help at Yalu Jiang run by David Melville from New Zealand and Pete Collins from Australia. On 27 October 2002 (about lunchtime) the first Yalu Jiang flagged godwit was seen at Miranda by David Lawrie.

2003 Chen Kelin, director of Wetland International – China Programme, visited New Zealand with a group of Chinese reserve managers on a study trip . They were guests of the MNT during their stay *(see issue 50)*. The issue of how to help educate the Chinese in China about shorebirds was raised. It was agreed that the first step would be to form a sister site partnership with a Chinese shorebird site. Yalu Jiang was chosen because:

1. The surveys and banding had shown that godwits banded in New Zealand were being seen at Yalu Jiang and visa versa.
2. The reserve staff were very keen to participate in flyway activities.
3. Access to the site was good.

2004 A memorandum of understanding was drawn up between the MNT and Yalu Jiang aimed at joint co-operation in education, staff training and shorebird surveys. In April 2004 five members of the MNT travelled to Yalu Jiang to undertake another full survey of the reserve (in a different week to previous surveys). After this a formal signing ceremony was held with high-ranking local and state government officials and Yalu Jiang staff. *(See issue 53)* The ceremony made the national TV news in China.

2005 The vice-mayor of Dandong visited New Zealand and Miranda with a delegation from Dandong and Yalu Jiang. They spent a week at Miranda, visiting numerous sites in the greater Auckland region *(See issue 57)*. The culmination of the trip was the opportunity to help with Wrybill banding. This was a very powerful event for the vice-Mayor (which he was recounting to people on the seawall of Yalu Jiang in April 2006). A few weeks later the Mayor of Dandong was in New Zealand with a trade delegation and visited Miranda on the first day of his trip. He left with a greater understanding of migratory shorebirds and a pledge to do more at Yalu Jiang for the shorebirds.

2006 During summer 2005/6 four managers (in two groups) arrived at Miranda, one each from Yalu Jiang and from Wetland International – China each time. Each group stayed for several months to learn about site management, educating the public and surveying shorebirds. In April 2006 four members of the MNT visited Yalu Jiang to undertake another survey and to conduct training of reserve staff from several other Chinese nature reserves. Advice offered to the reserve staff in 2000 about possible developments has been taken on board and an area had been set up as a secure roost site for the birds with a just completed visitors centre. Bird hides to seat hundreds of people have been erected. These were officially opened in April 2006 with 300 guests who were able to view 30,000 Bar-tailed Godwit at close range.

2007 and beyond

There is still much work to be done at Yalu Jiang. After 2007 the staff should be competent to carry out surveys on their own Working with schools is a high priority for the MNT and one particular school is showing considerable interest. Establishing benthic studies is a high priority, very little of this has been done anywhere in the Yellow Sea.

If the 400,000 shorebirds that used Saemangeum each year are to survive they will have to find other suitable sites, a very big ask. Yalu Jiang is now the single most important known shorebird site in the Yellow Sea and saving and enhancing it is of paramount importance. We now know it is highly likely that 90%+ of all Bar-tailed Godwit in New Zealand use Yalu Jiang as a staging site on their way to Alaska. For many it is possibly the only staging site they use in the whole round trip to Alaska each year.

None of the work at Yalu Jiang would have happened without the input of the MNT and the willingness of everyone concerned at Yalu Jiang to make a difference. Our joint work is being closely watched around China and is being held up as a model worth copying.

It is very humbling that a small group of unpaid but passionate people from New Zealand can make such a difference in a country as big as China and all New Zealanders should be proud of this.

Adrian Riegen

East Asian-Australasian Shorebird Site Network

The Shorebird Site Network is the framework under which much of our work in China, Korea and other parts of the flyway is organized. Activities such as shorebird surveys, publication of data, training workshops, public awareness and education programmes all contribute towards meeting objectives of the Network. First established in 1996, where does it stand ten years later?

The Shorebird Network is one part of the Asia-Pacific Waterbird Strategy. Three different action plans for conserving migratory species and their habitat are pulled together under this Strategy (see box below). The shorebird plan, because of the nature of the species involved, has the widest geographical range.

Targets

At the conference which ratified the Network in 1996 criteria were defined for inclusion in the shorebird network (see page 8). There are now approximately 400 sites identified that fit these criteria. The five year shorebird action plan launched in 2000 aimed to have 100 of these included in the network. This ambitious target was not achieved but as of July 2006, 45 sites in 12 countries had been incorporated in the network. The latest inclusions were six new Australian sites on 10 July 2006: Shallow Inlet Marine and Coastal Park, and Discovery Bay Coastal Park in Victoria, and Bowling Green Bay, Shoalwater Bay, Great Sandy Strait and Gurrawinya National Park in Queensland.

Recent Activities - Shorebird Site Network

- Identification of internationally important shorebird sites in South Korea
- A five week training program at Network sites in China
- Training at the Network sites in Papua New Guinea and Indonesia
- Coastal vulnerability assessment projects at Network sites in the Philippines and China
- Training projects in China and Mongolia;
- Shorebird survey projects in South Korea, Vietnam, Thailand, the Philippines and China
- Community based monitoring activities at three Network sites in Australia
- Shorebird migration research in Japan, Australia and New Zealand.
- Establishing links between schools situated near shorebird sites in China and New Zealand.

Achievements - Asia-Pacific Waterbird Strategy.

Achievements under the entire Waterbird Strategy and associated Action Plans over the last ten years have included:

- the identification of more than 700 sites of international importance for migratory waterbirds in the Flyway,
- an increase in our knowledge of migratory waterbirds,
- raised awareness of the importance of these birds
- increased capacity for managers responsible for maintaining important for migratory waterbird sites across the Flyway.

The Future

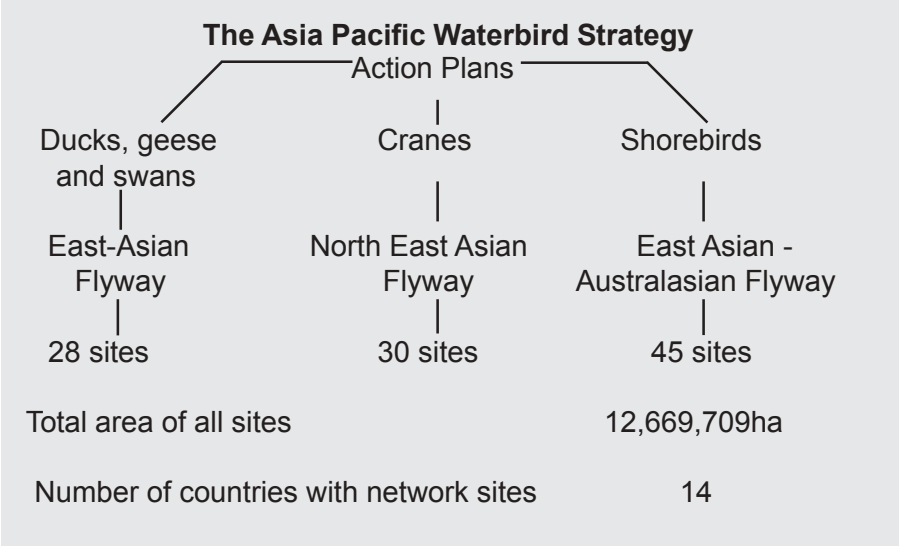
The governments, non-governmental organisations and inter-governmental organsations of 21 countries (including New Zealand) have joined in a Partnership for the Conservation and Sustainable Use of Migratory Waterbirds and their Habitats in the East Asian – Australasian Flyway. This partnership is being developed as the international framework to promote cooperation from 2007 onwards

The partnership was successfully proposed in 2002, at the World Summit on Sustainable Development in Johannesburg. It will build on the achievements of the Asia-Pacific Migratory Waterbird Conservation Strategy, and its Action Plans and will contribute to the implementation of a number of agreements including the Ramsar Convention on Wetlands, the Convention on Migratory Species, and the Convention on Biological Diversity.

This Partnership recognises the importance of economic development for local communities that share important sites with migratory water birds, whilst ensuring the availability and quality of habitat required to maintain populations of migratory birds. The Partnership recognises that building and promoting the site network for migratory water birds, and delivering capacity building at a local level to ensure sustainable delivery of ecosystem services, will enhance the conservation status of the migratory birds covered by the Partnership.

Partnership Working Group

The Partnership is being developed by an international Working Group with representatives from Australia,



Bangladesh, Indonesia, Japan, Philippines, USA, Ramsar Secretariat, BirdLife International, Wetlands International, World Wide Fund for Nature, and the Chairs of the three existing Working Groups for Anatidae, Cranes and Shorebirds under the Asia Pacific Migratory Waterbird Conservation Strategy. Australia provides Interim Secretariat facilities to the group. The Partnership Working Group has met twice, first in Krabi, Thailand in December 2005 and more recently in Canberra, Australia in March 2006.

The partnership will continue the momentum developed since 1996. MNT hopes it will provide a framework in which NZ will join other governments in contributing resources toward shorebird conservation along the flyway.

This information is compiled from writings by Warren Lee Long of the Shorebird Site Network

The East Asian-Australasian Flyway

The East Asian-Australasian Flyway (EAAF) stretches from the breeding grounds of the Russian Far East and Alaska, southwards through East Asia and South-east Asia, to Australia and New Zealand and encompasses 22 countries. The EAAF is home to over 50 million migratory waterbirds from over 250 different populations. During migration, waterbirds rely on a chain of highly productive wetlands to rest and feed, building up sufficient energy to fuel the next phase of their journey. These habitats are under increasing pressure from rapid population growth and economic development, particularly in East and South East Asia. These pressures impact on the birds that spend the non-breeding season in these countries as well as those birds that utilize the central parts of the Flyway during migration. International cooperation across their migratory range is therefore essential to conserve and protect migratory waterbirds and the habitats on which they depend.

Department of Conservation MEDIA RELEASE 3 July 2006

The Minister of Conservation, Chris Carter, has recognised the value of working cooperatively with other international conservation and environmental agencies.

Recent agreements have been signed with Italy and Korea e.g.

- establishing a partnership with Cinque Terre and Te Wahipounamu (South Westland) as World Heritage Parks to compare and managing similar issues.

- establish a partnership with Korean National Parks Service and share information on common biodiversity values e.g. feeding grounds for migratory sea birds that visit both countries.

Following this initiative the department is also currently investigating an agreement with the Brazilian Ministry of Environment with the aim of sharing bilateral initiatives in invasive species management, national parks/forest mgt and eco-tourism.

Other previous agreements include the United Kingdom, California and Fiji.

These agreements are usually formed on a memo of understanding between DOC and the agency and could include joint working parties, research forums, sponsored collaboration, networking and staff exchanges etc. DOC have been working on a system and processes to offer the formal exchanges as development opportunities for staff as well as providing benefit to the department. These processes have been based on experiences through exchanges previously arranged by staff with environmental agencies in Australia, UK and various Pacific Island nations.

The Minister and DOC recognise the benefits that exchanges can bring, through sharing of information, comparing management techniques and developing staff capability. The Minister is keen to be proactive internationally and has requested from the department any other joint working initiatives or partnerships that we would consider exploring.

In light of the above press release the Miranda Naturalists' Trust will be contacting the Minister of Conservation to present our case.

For More Information...

on the partnership
www.wetlands.org
then click on flyways the wetland networks, then choose the EAAF Partnership. While you are there you can also find out the latest on Avian Influenza and waterbirds.

on Dunlin
http://lu-research.lub.lu.se/
then search for author: Wennerberg Keyword: Dunlin. The article on Breeding origin and migration pattern of Dunlin is free to download.

on Delaware Bay
http://www.state.nj.us/dep/fgw/ensp/delbaylog05.htm
This site has the daily logs from the 2005 Delaware Bay studies. Normally we see only the results of research, these are interesting in showing the process that is gone through to get those results.

CHAIRMAN'S REPORT

1. Election of Chairman:

Following the Annual General Meeting in May the Trust Council has met and re-elected David Lawrie as chairman for the coming year. This appears to be a role that David is having some difficulty passing to younger members, but there is some hope as at the recent Council meeting several members were keen to instruct him how to run the meeting, which is a sign that they are nearly ready to take over, perhaps next year!

Another point of concern relating to this role is that John Gale, who holds an *ex-officio* position as past chairman on the Council, is threatening to resign from this position. Clearly this signifies that he believes that there should be a new past chairman to save him the necessity of resigning.

2. Trust Council:

At the AGM Nigel Milius decided to stand down, as the transient nature of his work means that he was very seldom able to attend Council meetings. This was a pity as Nigel had provided a different perspective on several issues. Hopefully when he gets a real job rather than gallivanting around on cruise boats all the time he will be able to have further input into Council activities.

The AGM decided to replace Nigel with not one but two people, with all of the other previous Council members standing again.

The new members are Wendy Hare from the Coromandel, and Phil Hammond from Auckland. There are more detailed profiles on these new members elsewhere in this newsletter but at the recent meeting it became clear that the different views that they bring to the Council will be invaluable as the Trust strives to move forward.

It was with a great deal of pleasure at the annual meeting that we welcomed Nannette McLauchlan back to the Centre after nearly 2 years absence through illness. As previously reported Nannette organised the 30th Anniversary luncheon but was not able to attend because of her illness.

Annual General Meeting Speaker:

The guest speaker at the Annual Meeting was Steve O'Shea, who provided a lively illustrated talk on the turbulent lifestyles of giant squid. While this is a topic that is outside the usual gambit of Trust activities it was a fascinating insight into these mysterious creatures that are seldom seen and very poorly understood.

3. Korean Connection:

On 22 May Adrian Riegen and myself were invited to a function at the Department of Conservation Office in Auckland. This was to witness the signing of a Memorandum of Understanding between the Minister of Conservation and his Korean counterpart, establishing joint contact between the respective conservation departments.

The intention of this agreement is to foster relationship and staff transfers between the two countries so that each can gain a broader understanding of different ways of operating. This appears to be similar in nature to the memorandum that the Trust has with the officials at Yalu Jiang in China.

It is ironic that this agreement was signed a few days after the delegation from Miranda returned from Saemangeum and at about the same time as the reclamation seawall was closed. Adrian and I took the opportunity to meet the Korean Ambassador and also to provide copies of the May issue of the Trust newsletter which contained the articles on the Chinese and Korean visits.

Subsequently I have written to the Department of Conservation Head Office and offered to host any Korean exchangees for a short period so that we can provide them with a grounding on the migratory shorebirds that utilise both New Zealand and Korea as an extension of our Chinese efforts. We can only hope that these memoranda provide the impetus for change as further reclamations around the Yellow Sea are likely to have major impacts on the migratory birds.

4. Department of Conservation Grant:

Following the comments in recent newsletters I am pleased to advise that the approaches that we made to the Department of Conservation Offices in Auckland and Hamilton have had positive results. Unfortunately the Auckland Office decided not to assist with a contribution towards our work in China, but the Waikato Office was able to provide a grant of $11,000 + GST towards that activity.

This gives us some confidence in now planning for the activities in the 2007 season when it was hoped to have people stationed at the major roost sites throughout April and May to get a

BEQUESTS

As you will be aware from my reports in recent years the Trust has received several bequests from the estates of deceased members. The major bequest that was received has been placed in an Endowment type fund which in the meantime the Trust is retaining as a capital sum.

The interest from this account is utilised to pay the relieving manager and this is a method that the Trust believes provides ongoing benefits that will assist in honouring the benefactor.

A bequest set out in your will is a method where members can assist the work of the Trust to continue in the future. This would reduce the need to raise money each time the Trust wishes to undertake any new activity.

Any bequests can be either designated for a specific purpose or left to the Trusts' discretion.

If you require any assistance in formulating the appropriate wording for your Will or wish to discuss options on a confidential basis you should contact the Shorebird Centre or the Chairman.

better indication of when the birds actually pass through the reserve on their way to the breeding grounds.

While we are grateful to the Waikato Conservancy for their support we are disappointed that it was necessary for a conservancy to provide the support rather than their Head Office or the Government itself.

5. Educational DVD:

Over the past few years the Trust has held several discussions with Pete and Judy Morrin regarding the potential preparation of a film covering the lifecycle and migration of the godwit flocks that travel to New Zealand. Originally the film was intended to be for showing on television but with recent developments in technology the Trust now believes that a DVD would be a better medium to produce.

The intention would be to develop the DVD covering the basic migration and lifecycle story of the godwit. Interspersed with that main feature would be short clips showing various activities that take place on the breeding grounds, including research being undertaken there as well as here in New Zealand. This would also provide educational material that could be utilised by differing age groups and teachers, as well as the possibility of producing it in several different languages which will enable it to be used overseas.

Clearly the preparation of that type of material is relatively expensive and the Trust is currently investigating options to provide the funding which has been estimated at $40,000. If there are any members out there that know of companies that may be interested in providing sponsorship of this type of venture it would be appreciated if they could contact either Keith at the Centre or myself as Chairman. We believe that this is a mechanism that would provide material that can lead to a much greater understanding of the plight of godwit and the miracle of their journey to and from New Zealand each year.

Understanding their lifecycle is clearly the first step in ensuring conservation of the species.

David Lawrie
Chairman

Breeding of NZ Pigeons in an urban park

My observations in Pukekura Park in central New Plymouth over recent years indicate that the nesting season of New Zealand Pigeons (*Hemiphaga novaeseelandiae*) resident there extends from September to March, with a peak of nest building in October and November.

I followed eleven nesting attempts during the four breeding seasons 2001/2002 - 2004/2005. Nests I studied were in tree ferns (2), Karaka (3), Rimu (1), Tanekaha (1), Totara (1), Mahoe (1), Rewarewa (1), and Macrocarpa (1). Therefore, the pigeons I studied had a preference for nesting in Karaka trees. The only exotic tree used by them was the Macrocarpa. One of the nests, that I analysed later, was quite a substantial structure for a pigeon nest. It consisted of almost 100 slender twigs of various lengths and widths. This pair must have made many forays to collect these twigs because pigeons usually collect only one twig at a time. On one occasion, I saw them collecting dead twigs from nearby Kamahi and Tasmanian Beech trees, and small-leaved White Rata vines.

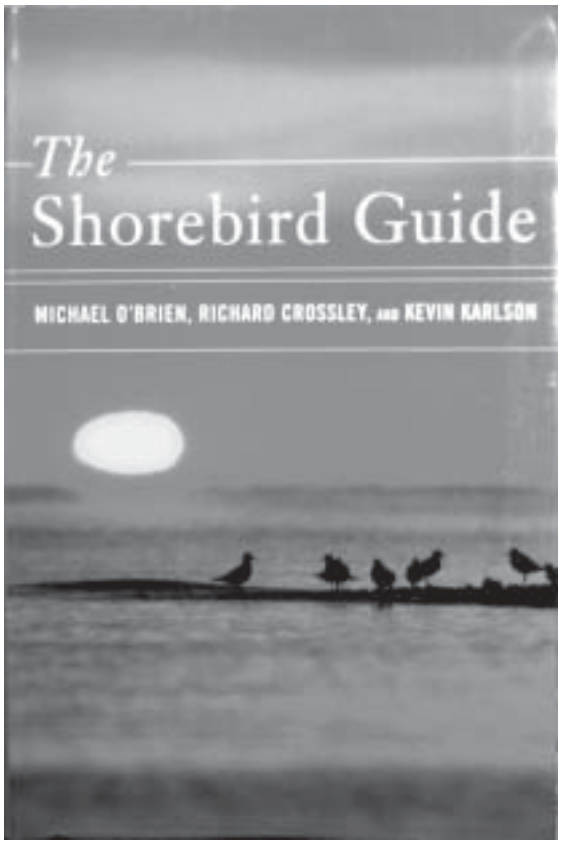
Six of the nesting attempts I studied were unsuccessful. One failed at the egg stage when the tree fern frond on which the nest was built collapsed. The others failed for unknown reasons. I did not find any evidence indicating that any of them failed because of mammalian predation. There is no systematic control of those predators in the park, but their numbers appear to be low. The remaining five nesting attempts (45%) were successful. Other nesting attempts in the park during these four breeding seasons were also successful because, during those periods, I saw immature pigeons there that were not associated with any of the nests I studied.

It has been suggested that New Zealand Pigeons may not come into breeding condition unless fruits are available. But no fruits that are eaten by them are available in Pukekura Park for some months before the peak of nest building there in October and November. The diet of pigeons in the park throughout that time seems to consist entirely of leaf buds and leaves, and flower buds and flowers of various magnolias and Kowhai in particular. Some fruits, Kawakawa and Puriri, become available in the park from about mid-late December. One immature pigeon I observed was fed Kawakawa fruits at the time of fledging. Another was fed both Kawakawa and Puriri fruits for a period of at least three weeks after it fledged.

David Medway

NZ Pigeon photo Ian Southey

BOOK REVIEW
The Shorebird Guide
Michael O'Brien, Richard Crossley, and Kevin Karlson
Houghton Mifflin Company New York 2006



Another addition to an increasingly numerous array of North American shorebird guides to choose from, this superb photographic guide deserves a place as a welcome addition to the collection of both beginner birder and expert shorebird biologist alike. A qualifying statement is needed however: a welcome addition for *those who wish to spend time enjoying and identifying shorebirds in North America.*

Nevertheless despite being written from the American perspective, the multitude of stunning photographs guarantees this book immediate appeal to even the Antipodean enthusiast (and you will see most of our familiar Arctic migrants nonetheless included.) Not only the standard of these images exceed those of most other photographic guidebooks, traditionally seen as inferior to the more academic illustrated species guides, but the choice and arrangement has been carefully thought through: "… we present a more real-life image of each species, including distant birds, mixed species flocks, and varied lighting" state the authors in the "How to Use This Guide" section. Three American essentially non-academic bird experts of considerable repute collaborated for more than 3 years to compile and write this easily readable guide. With almost 500 pages, a third of which is nevertheless devoted to species accounts, the book covers almost a hundred species about a half of which regularly breed in the continental U.S. as well as vagrants, the extremely rare hybrids and even rarer shorebirds with deformities of anatomy or pigment. The caption beneath photos of two aberrant Ruddy Turnstones with weird looking bills reads "Occasionally a bird's bill may grow abnormally. Observers should be prepared for odd variations and never rely on a single field character to make an identification." Paradoxically, therein lies the central theme and unique approach of this guide: that of birding by impression. The approach is a more holistic style of bird identification which has its roots in the term, originally used by the military to denote "general impression of size and shape", known as *jizz.*

Thus the first image of each species shown is simply an impression photo, maybe at a distance or with a mixed flock and invariably including the usual habitat. Subsequent photos (there are perhaps 10 for each species covered) may show birds in flight, or engaged in representative feeding behaviours, in a variety of different postures and plumages chronologically through the life cycle of the bird.

How useful is such a way of presentation! I well remember a year ago, having returned from a birding bonanza of a holiday in Alaska in the boreal summer agonising over a photo of a small to middling sized shorebird with a scruffy, darkish, rather damp looking breast with difficult to interpret plumage. How we scrutinised the illustrated species guides we had at our disposal, sending emails and digital photos to and fro as we looked at the various artists' impression of their bird's breast feathers. Could we have seen a Ruff, or should I say Reeve, as we thought that breast could fit the plumage of the female just starting to moult after breeding. Who to solve the dilemma? Our esteemed Chairman David Lawrie of course! I remember well David's considered reply: "the *jizz* is not quite right; the overall shape and bulk, proportions of length of legs to body and stance …" (David's verdict immediately made sense: a Pectoral Sandpiper.)

An aspect I really liked was that, as well as measurements of length, wingspan and weight (mercifully in both metric and imperial units), a size comparison to other relevant species was included. I am forever flicking through species guides to work this out when I am trying to identify a bird in field. Likewise, the next heading is "Structure" which has the *jizz* slant, followed by "Behaviour". How many times whilst in the U.S. have I declared "I think I've just seen a rare extremely dark sparrow!" or similar? Then to be asked "And where was it?" "Ummm …. Perched in a tree I believe." "Sorry to disappoint you" would come the reply, "but you've very possibly identified yourself a nice (as common as starlings!) female Red-Winged Blackbird!" Well, we've all got to learn somehow. There is in the book a great photo of a vagrant Upland Sandpiper which had strayed to the U.K. after an exhausting ocean crossing. A group of

birders are facing the starving bird, who evidently took mealworms out of the hand, at remarkably close range. I like the authors' gentle suggestion to those at perhaps my level: "Note the birder carefully taking notes, the best way to learn about birds."

Some in the U.S. have termed this practical approach taking into account the likes of behaviour, stance and comparative size the "Cape May school of birding" Indeed all three authors now live in this wonderful area with its multitude of habitats and unique location. On the Atlantic flyway flanked by Delaware Bay to the west and the Atlantic coast on the east, this narrow peninsula of southern New Jersey despite its situation in the most densely populated area of the northeastern U.S., is a mecca each year to literally hundreds of thousands of migratory birds and birders alike. In fact, I may be wrong in underestimating both these by an order of magnitude! Suffice to say, these authors are attempting to bring a method of identification and thus understanding and indeed enjoyment of shorebirds to a much wider audience as birding as a hobby, particularly in North America, continues to grow in popularity.

The book was released whilst I was myself in Cape May, N.J., doing volunteer work with the Delaware Bay Shorebird Project (and hob-nobbing with a band of American and international expert shorebird biologists - and our own Dick Veitch!) At U.S. $24.95, the guide was certainly snapped up by our household when one of the authors, the eminent yet ever personable Kevin Karlson wildlife photographer and biologist brought around a supply to autograph personally for us all. We were subsequently treated to a slide show of some of the most impressive bird photography I have seen, including those from his years working in the Arctic. Another author, Richard Crossley, joined our banding team on one morning's catch of shorebirds, and turned to me to ask some fine point pertaining to the condition or appearance of the birds. I see myself as a prime example of the book's target audience: certainly more a beginner in the identification and understanding of shorebirds than anything else. Being asked such an opinion thus amused me no end as it had been whispered to me previously that this particular author, originally from the U.K., had obtained a Green Card on the basis of his superb bird identification skills and reputation! One of the things Richard is currently working on is to encourage children into the better understanding and enjoyment of Nature (never more needed in the current culture of Play stations and vehicles in the U.S. with TV / computer screens where the kids can endlessly watch DVDs as they motor along the highways!) In particular, he is passionate about making birding more appealing to a wider spectrum of the U.S. population.

The first named author, we were not fortunate to meet. The very esteemed and well-liked Michael O'Brien is "considered by his peers to be one of the top experts on bird identification in North America" as well as being an accomplished bird artist. One of the most fun and instructive features in this book, is the almost light-hearted questions dotted through the text: "what is the other bird in the photo?" as well as 2 quizz pages at the very end of shorebird silhouettes by Michael to have a go at identifying.

My advice: if you are planning a trip to the States, do include the chance to see some shorebirds. And this book would be a welcome addition that is more enjoyable and much easier than others to peruse in preparation on that long plane flight over! Try ordering off amazon.com.

Geraldine King

I must congratulate you on another fine edition of Miranda News. On finding it in the mail box today I sat down and read it from cover to cover and found a very pleasing balance of articles, with a great variety of interesting content. Well done!

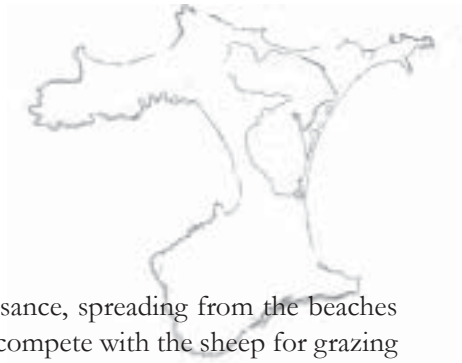
One thing I would like to point out, and I hope you will mention it in the next edition, relates to the Japanese snipe at Forest Lake *(Feb 2006 issue 60)*, which has attracted viewers from all over the country, from overseas, and even people from Hamilton. Many of the latter are people who regularly use Forest Lake for their own pleasure, but, mystified by the sudden appearance of groups of binocular and telescope bearers, were brave enough to ask. "What are you looking at?" Usually they were delighted to be shown a rare bird. None of this would have happened, but for the dedication of Waikato OSNZ member, Dr Brian Challinor, who first spotted the snipe on one of his regular monthly lake counts. The sighting of this rare visitor is the result and reward of over ten years of persistent monitoring and patient recording by Brian, of what to most observers would appear to be just a few birds on a rather insignificant looking little lake. I think his efforts deserve our acknowledgment and congratulations.

photo G. Vaughan

Bev Woolley

Editors note - I agree and apologise that this did not make the last issue. Thanks Bev for pointing it out!

A visit to the Chatham Islands - the birds different in colour and size



During the short time I visited Chatham Island I learnt a lot about the geography, the inhabitants, the history, the flora and the bird life. I gained this information from our knowledgeable tour guides and some research on my part before leaving for the fourth largest island in New Zealand. People may be confused by the singular and plural use of Chatham. Officially the Chatham Islands are described as a group of 10 islands, although there are many more named rocky outcrops

Chatham Island, Pitt Island, South East Island, Mangere Island and Little Mangere Island in order of size are the most important. Only Chatham and Pitt Islands are inhabited with a population of approximately 695 of whom some 35 live on Pitt Island. As I am a member of the Miranda Naturalists' Trust I was interested in the bird life and gleaned as much information as I could from the islanders and reference books.

The Chatham Islands are home to one of New Zealand's rarest petrels - the Taiko or Magenta Petrel which was rediscovered by David Crockett in 1978. The Department of Conservation has provided funding for the recovery of this rare species. With the support of local landowners DOC has established a nature reserve at Tuku an area on the south-eastern coast of Chatham Island near the fishing village of Owenga. The current estimate of 120-150 birds is the result of a long and arduous task of capture expeditions, protecting breeding areas and monitoring breeding pairs. Birds leaving the reserve travel 500 to 1000km to their feeding grounds around the Antipodes Islands. They return to the Chathams in December to breed and raise their single chick in their shallow burrows.

I think we all know the story of the Black Robin. How it ranged through the Chatham Islands but became confined to the scrubby vegetation of Little Mangere Island. The subsequent rescue of this endangered species and the establishment of a colony on Mangere Island and South East Island is a remarkable achievement of the Wildlife Service. Our guide on Pitt Island told us that a pair of Black Robins lived in a reserve but unfortunately we were not able to see them.

Other endemic species are similar to those on the mainland but with subtle differences.

The Chatham Island Pigeon (Parea) is larger than the New Zealand Pigeon with greyer upper parts and a stouter bill - red with a yellow tip, slightly hooked. Although it has decreased in numbers due to European settlement on Chatham and Pitt and has completely disappeared from Mangere Island, it is making a comeback in the Tuku Reserve where it can be seen feeding on the berries of the Kopi (Karaka) tree and if you are lucky performing in spectacular aerial displays.

The Chatham Island Oystercatcher has a stouter shorter bill and larger feet than its mainland cousin. The larger feet make it possible for the birds to cope with the rocky platforms they frequent at low tide and the stouter bill to feed on limpets, chitons, mussels and small gastropods. They do not flock together but remain as single or paired birds. They are strongly territorial.

Weka were brought to the Chatham Islands in 1908 by an early settler. They rapidly increased and unprotected have become a source of food for the inhabitants.

A small flock of Black Swans were also introduced by another early settler. At first he kept them confined to his farm but soon let them loose. They also rapidly multiplied to become a nuisance, spreading from the beaches to compete with the sheep for grazing ground. The swans are so numerous that the birds often starve. At certain times the islanders have a "shoot out" to reduce the numbers. The eggs are preferred to their meat.

The Northern Royal Albatross nests on the flat topped Forty-four and Sister Islands situated off the Chatham Island. In the past the Moriori men rowed to these islands in September to catch the young birds for food. They carried as many as their frail boats allowed them. The Maori too hunted them using their large whaling boats. They ate the birds fresh or preserved them in their own fat in kelp bags which were buried in the sandhills. Although the Moriori hunted and ate these magnificent birds, the albatross was part of their culture. Today their descendants have built a magnificent marae in the shape of an albatross. There is also a Chatham Island Mollymawk, a smaller variety of the albatross. It differs from others of the same species in colouration and size.

Other birds that are listed as endemic to the Chatham Islands and which may differ slightly from mainland species are the Fantail, Fernbird, Blue Penguin, Red-crowned and Yellow-crowned Parakeet, pipit, shag, snipe and Tui. One bird I did not see was the Myna hopping out of the way of cars. Perhaps these birds prefer the hard top which is a rare surface in the Chatham Islands!

Muriel Du Feu

Photos opposite page
Black Robin,
Chatham Island Wood Pigeon and
Chatham Island Oystercatcher.
Photos Robin Bush

OSNZ Firth of Thames Winter Census

Pied Oystercatcher	5995
Variable Oystercatcher	94
N.Z. Dotterel	38
Banded Dotterel	276
Wrybill	1010
Whimbrel	4
Black-tailed Godwit	1
Bar-tailed Godwit	724
Turnstone	0
Red Knot	262
Pied Stilt	2902
Black/Smudgy Stilt	2
Total Waders	**11,308**

Selected Others

Black Shag	24
Pied Shag	843
Little Black Shag	13
Little Shag	23
White-faced Heron	454
White Heron	2
Reef Heron	1
Royal Spoonbill	4
Spur-winged Plover	250
Black-backed Gull	276
Red-billed Gull	644
Black-billed Gull	179
Caspian Tern	124
Little Tern	0
White-fronted Tern	140
Black Swan	154
Paradise Duck	335
Mallard Duck	1311

Points of Note:

Both the Pied Oystercatcher and Wrybill numbers were low this year. On the day after the census more then 1600 Wrybill were counted, indicating that part of the flock must have been in an area not counted (In late July well over 2000 Wrybill were counted at Miranda). SIPO had started migrating south to the breeding grounds, however this by itself may not explain the low count.

Counts start just north of Kawakawa Bay and continue around the Firth to North of Thames.

Census Co-ordinator Tony Habraken.

Upcoming Courses

The Management of NZ Dotterels and Other Shorebirds
12-14 September 2006 Tutor: John Dowding

The Management of NZ Dotterel and other Shorebirds is tutored by John Dowding, conservation consultant and member of the Dotterel Recovery Group. This is aimed at those working in the field and those involved with the management of such programs. Some sponsorship may be available for private individuals.
Cost $200.00 includes all tutoring, food and accommodation at the Miranda Shorebird Centre.
Numbers limited, book as soon as possible.

Wader Identification Weekend
28-29 October 2006 Tutors: Keith Woodley and others

The Wader Identification Weekend began as a request from field course students for more. On-the-shore sessions will be backed up by indoor work. Some telescopes and binoculars will be available for use during the course.
Cost $150 includes all tutoring, food and accommodation at the Miranda Shorebird Centre.
Numbers limited

Botanical Illustration
18-19 November 2006 Tutor: Sandra Morris

Sandra Morris, whose delightful art work attracts the eye on the Miranda leaflet, will share her skills on the art of botanical illustration , including history of botanical art, plant structure and dissection studies, together with field work.
Students will need to bring specified materials but other materials will be supplied. Cost $190.00 includes some materials, all tutoring, food and accommodation at the Miranda Shorebird Centre.
Numbers limited to 10

The Miranda Field Course
18 - 24 January 2007

Some cooks say why tinker with a good recipe when the pudding always turns out so well. But many of us, especially when tempted by the superb array of ingredients available in New Zealand, can't resist including just a bit of this or a bit of that. Sometimes you end up with a whole new recipe, other times maybe you even need a bigger dish.

It's been a bit like that with the annual Miranda Field Course. The core recipe from 1999 still stands - wader identification and conservation, cannon and mist netting, what's in the mud that attracts our waders, coastal botany...

Bird photography is in one year, out the next, in again from popular demand; local invertebrate life, by day and by night, has become a staple. A veterinarian on the course offers to dissect an avian casualty and How Birds Work becomes a new flavour.

There comes a time when even the basic ingredients need looking at. The work done by Miranda people and others on the East Asian and Australasian Flyway, our growing international connections, new people arriving on the shorebird scene - there is always more to know, new ways to look at the facts. And each year, the students cry out for time to sleep!

So the 2007 Field Course will be just half a day longer. Shorebird scientist and Miranda Council member Phil Battley will join the usual bird-brained line up of Keith Woodley, Adrian Riegen, Stephen Davies and Dick Veitch. They will incorporate much new material on shorebird conservation. Entomology, botany, etc will led as ever by tutors of the highest standard. The proof of the pudding will be, as ever, in the eating! Come and try it.
Good value at $490 includes all materials, teaching, food and accommodation.
All tutors experts in their fields. Limited to 12 students (age range so far 14 to 82).

Full details on all these courses is available from the Centre. Numbers on the courses are strictly limited, so contact Keith now if you are interested, for yourself or to make a gift to someone else.

Look at recent issues of MNT News and NZWSG News
www.miranda-shorebird.org.nz

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Adrian Riegen (Deputy Chairman)
William Perry (Secretary)
Ashley Reid (Treasurer)

Kathy Barrow	Eila Lawton
Phil Battley	Nanette McLauchlan
Phil Hammond	Sue Reid
Wendy Hare	Gillian Vaughan
Len Taylor	John Gale (Ex officio)

Membership Rates
Ordinary Member - $35
Family Member - $40
Overseas Member- $40
Life Member, under 50 - $1050
Life Member, 50 and over - $525

Membership of the Trust entitles you to –

- Four Miranda News issues per year.
- A $5 discount on overnight accommodation
- Invitations to Trust Events
- The right to attend the Annual General Meeting
- The right to vote for council members

Help support the Trust's efforts to educate and promote conservation awareness.

Bequests
Remember the Miranda Naturalists' Trust in your Will and ensure that our vital work in education and protection of the migratory shorebirds can continue. For further information and a copy of our legacy letter contact the Shorebird Centre.

Accommodation
The Centre at Miranda has three bunkrooms for hire plus two self-contained flats:

Per bed / night member	$12.50
Per bed / night	$17.50
Hire of flat member	$40.00
Hire of flat non-member	$50.00

For further information contact Keith at the Shorebird Centre, RD3 Pokeno
Phone /Fax (09) 232 2781

From the Blackboard 1 August 2006

Arctic Migrants

Bar-tailed Godwit	506
Hudsonian Godwit	1
Black-tailed Godwit	1
Red Knot	246

New Zealand Species

Pied Oystercatcher	lots
Wrybill	2700
NZ Dotterel	5
Banded Dotterel	26
Variable Oystercatcher	
Black-billed Gull	
Red-billed Gull	
White-fronted Tern	
Caspian Tern	
Pied Stilt	
Spoonbills	8
White Heron	1

Want to be involved?

The Miranda Garden

If you want an excuse to stay at Miranda for a couple of week nights free of charge, come and help a small team of gardeners maintain the gardens. It is satisfying and worthwhile work in the outdoors. We make the time enjoyable especially when we down tools at high tide and go and watch the birds on the shell banks. If interested phone Keith on 232 2781 who will put you on to a gardener!

Friends of Miranda

A volunteer group which helps look after the Shorebird Centre during busy periods and in Keith's absence. If you'd like to spend time helping out contact Keith. Helping out can be anything from helping with the shop, school groups or meeting people down at the shellbanks.

Long term Volunteers

Spend four weeks or more on the shoreline at Miranda. If you are interested in staffing the visitor centre, helping with school groups or talking to people on the shellbank for a few weeks contact Keith to discuss options. Free accommodation is available in one of the bunkrooms. Use of a bicycle will be available.

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.

The Magazine
never forget you are welcome to contribute to the MNT NEWS

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