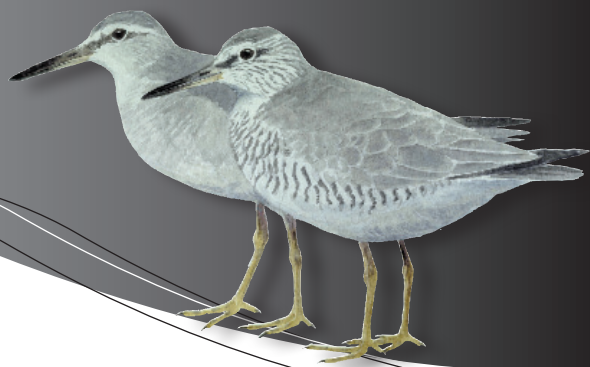


Tattler



Newsletter for the Asia Pacific Flyways

Editor: Liz Crawford Email: tattler@awsg.org.au No. 34 December 2014

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Editorial

Presentations at the Australasian Shorebird Conference in September 2014 emphasised the continuing rapid decline in shorebird numbers in the East Asian-Australasian Flyway, and the critical importance of staging areas in China. This edition of *Tattler* provides summaries of research being undertaken at the University of Queensland into shorebirds and their habitat. It also highlights the successful launch of the Yalu Jiang survey report by New Zealanders in cooperation with Chinese government officials and shorebirders. And it features several accounts of flagged birds that have revealed their migration secrets through the observations of many persistent researchers and birdwatchers.

As Kun Tan states in her reflections on the Australasian Shorebird Conference, shorebirds and people are international and it is only through international cooperation that these amazing birds will be able to continue to return to the sites along the flyway that they call 'home'. Such cooperation has led to the successful increase in breeding of Chinese Crested Terns on Jiushan Islands, China.

It would be wonderful if 2015 marks the application of ecologically sustainable development principles along the Flyway - there is certainly a growing body of people willing it to happen.

Eastern Curlew with crab - photo Dean Ingwersen

Tattler is the quarterly newsletter of the Australasian Wader Studies Group. Contributions are welcome and encouraged from all working with shorebirds and their habitats along the East Asian - Australasian Flyway. Please contact the editor for more information.



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www.awsg.org.au

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Australasian Shorebird Conference - Keynote

Why are migratory shorebirds declining so rapidly and what should we do about it?



On their way south after breeding, Alaskan Bar-tailed Godwits fly straight to Queensland. One bird flew 11,680km in 8 days direct from the Avinof Peninsula in western Alaska to the Firth of Thames in New Zealand - without stopping! Photographer: Rob Clemens

Dedicated members of ornithological societies across Australia and New Zealand have been counting migratory shorebirds for decades, and excellent analyses of these data have been published for individual sites on both sides of the Tasman. Many published analyses of local trends revealed declines but until recently there was no clear picture as to whether these trends were widespread or what this meant for the future of our migratory shorebirds. Financial support from the Queensland Wader Study Group, the Australian federal and state governments and the Port of Brisbane, has enabled our project team at the University of Queensland to bring together shorebird count data generously contributed by dozens of organisations and thousands of counters to answer this big question.

The results, I am sad to report, are truly shocking. Analyses of count data from Australia and New Zealand by Dr Colin Studds reveal declines of staggering severity and rapidity, with some migratory shorebird populations crashing by up to 80% in 20 years. Curlew Sandpiper is one of the most heavily impacted species, showing a steep decline across much of its distribution, and it has now been nominated as Critically Endangered here in Australia. Fortunately, it remains less impacted in other flyways around the world. The Eastern Curlew has also recently been nominated as nationally threatened; it only occurs in our flyway (the East Asian-Australasian Flyway) so we are solely responsible for saving it from extinction.

For some species, such as the Red Knot, the decline is quite consistent in various parts of its non-breeding range, while for others such as the Bar-tailed Godwit, the decline is much more pronounced in some regions than in others. In the case of the godwit, the eastern *baueri* population is declining at 1-2% per year in eastern Australia and New Zealand. This is fast, but nowhere near as dramatic as the western *menzbieri* population, which is declining at 6-7% per year in western Australia. *Menzbieri* godwits pass through the Yellow Sea each year on both their northward and southward migrations, while the *baueri* birds fly straight over the Pacific to New Zealand and eastern Australia on their return journey from the Arctic and are thus less dependent on stopover sites. Indeed, we are discovering that the species most reliant on the Yellow Sea on migration are also those declining most quickly here in Australia, suggesting that habitat loss in the Yellow Sea has affected our birds.

Using satellite data we have documented rapid losses of tidal flats in eastern Asia, a region known to be of critical importance as stopover habitat for many migratory shorebirds. PhD student Nick Murray developed a remote sensing method to assess change over ~4,000 kilometres of the Yellow Sea coastline and discovered extensive losses of tidal flats, driven primarily by urban, industrial and agricultural land reclamations. Nick's analysis revealed that 28% of tidal flats existing in the 1980s had disappeared by the late 2000s. Moreover, reference to historical maps suggests that up to 65% of Yellow Sea tidal flats have been lost since the 1950s. As well as land reclamation, large declines in sediment flows carried by the region's major rivers could be having a big impact, with some tidal flats simply disappearing over the past few decades. With the Yellow Sea region forecast to be a global hotspot of urban expansion, coastal development must urgently pursue a course that minimizes ecosystem loss and protects remaining coastal ecosystems.

We believe that an effective conservation strategy must manage the complex economic, social and ecological tradeoffs that drive coastal development. This means conserving natural ecosystems alongside appropriate coastal development to protect and enhance coastal settlements. We urge decision-making that simultaneously plans for coastal development and coastal conservation along the world's most rapidly developing shores. For example, places subject to near-intractable threats, such as sediment depletion and coastal subsidence, could be prioritised for development in regions where such development must occur. If carefully planned, this could ease pressure on coastal

ASC - Why are migratory shorebirds declining so rapidly? (cont.)

protected areas and avert catastrophic extinctions of coastal biodiversity.

Migratory shorebirds fly across international borders, and there is an urgent need for countries to work together to solve this problem before it is too late. We are enormously excited by the actions already underway along the flyway and our research group is trying to engage with decision-makers to help build momentum for change. Sites are being protected all around the flyway under the umbrella of the East Asian-Australasian Flyway Partnership. The Partnership is an exciting collaboration among 16 governments across the region, together with three intergovernmental agencies, nine international NGOs and an international corporation (Rio Tinto).

Ultimately, without data from you, the foot soldiers of field ornithology, we would be unable to understand what is happening to our shorebirds, and unable to present compelling data to decision makers that something needs to be done. For your hard work in counting shorebirds, keep it up, and THANK YOU!

To keep up to date with our work by downloading our scientific papers or watching a video, visit our website at <http://www.fullerlab.org> or follow us at <http://www.facebook.com/fullerlab>

Richard Fuller

University of Queensland

Editor's Note: This a summary of the keynote presentation given by Richard Fuller at the September Australasian Shorebird Conference in Darwin.

Short extracts from some of the recent papers from researchers at the Fuller Lab:

Iwamura, T., Fuller, R.A. & Possingham, H.P. (in press). *Optimal management of a multispecies shorebird flyway under sea-level rise*. **Conservation Biology**.

"The Yellow Sea region stood out as the most important priority for effective conservation of migratory shorebirds, but investment in this area alone will not ensure the persistence of species across the flyway. The spatial distribution of conservation investments differed enormously according to the severity of sea level rise and whether information about flyway connectivity was used to guide the prioritizations. With the rapid ongoing loss of coastal wetlands globally, our method provides insight into efficient conservation planning for migratory species."

See: <http://www.fullerlab.org/sealevelrise/>

Fuller, R.A., Lee, J.R. & Watson, J.E.M. (2014). *Achieving open access to conservation science*. **Conservation Biology**, in press.

Conservation science is a crisis discipline in which the results of scientific enquiry must be made available quickly to those implementing management. We assessed the extent to which scientific research published since the year 2000 in 20 conservation science journals is publicly available. Of the 19,207 papers published, 1,667 (8.68%) are freely downloadable from an official repository. Moreover, only 938 papers (4.88%) meet the standard definition of open access in which material can be freely reused providing attribution to the authors is given. This compares poorly with a comparable set of 20 evolutionary biology journals, where 31.93% of papers are freely downloadable and 7.49% are open access. Seventeen of the 20 conservation journals offer an open access option, but fewer than 5% of the papers are available through open access. The cost of accessing the full body of conservation science runs into tens of thousands of dollars per year for institutional subscribers, and many conservation practitioners cannot access pay-per-view science through their workplace. However, important initiatives such as Research4Life are making science available to organizations in developing countries. We urge authors of conservation science to pay for open access on a per-article basis or to choose publication in open access journals, taking care to ensure the license allows reuse for any purpose providing attribution is given. Currently, it would cost \$51 million to make all conservation science published since 2000 freely available by paying the open access fees currently levied to authors. Publishers of conservation journals might consider more cost effective models for open access and conservation-oriented organizations running journals could consider a broader range of options for open access to nonmembers such as sponsorship of open access via membership fees.

See: <http://www.fullerlab.org/openaccess/>

Runge, C.A., Martin, T.G., Possingham, H.P., Willis, S.G. & Fuller, R.A. (2014). *Conserving mobile species*. **Frontiers in Ecology and the Environment**, **12**: 395-402.

The distributions of many species are dynamic in space and time, and movements made by individuals range from regular and predictable migrations to erratic, resource-driven nomadism. Conserving such mobile species is challenging; the effectiveness of a conservation action taken at one site depends on the condition of other sites that may be geographically and politically

ASC - Why are migratory shorebirds declining so rapidly? cont.

distant (thousands of kilometres away or in another jurisdiction, for example). Recent work has shown that even simple and predictable linkages among sites caused by "to-and-fro" migration can make migratory species especially vulnerable to habitat loss, and substantially affect the results of conservation prioritizations. Species characterized by more erratic or nomadic movements are very difficult to protect through

current conservation planning techniques, which typically view species distributions as static. However, collaborations between migration ecologists, conservation planners, and mathematical ecologists are paving the way for improvements in conservation planning for mobile species.

See: <http://www.fullerlab.org/conserving-mobile-species/>

ASC - a Chinese Research Student's Perspective

Thanks to the generosity of David Seay and invitations from the Australasian Wader Studies Group and Arthur Keates, I was able to attend the Australasian Shorebird Conference 2014 on 20th and 21st September in Darwin University and participate in cannon netting at Lee Point and Darwin Port in the following few days. As a PhD student on waders in China, it was very inspiring to have a chance to understand the survey, research and management of shorebirds in Australia.

When talking about the problems of those migratory shorebirds in the conference, we referred to the Yellow Sea Region where I am working on my thesis, especially the coastline of China and South Korea. Reclamation, food shortage and pesticide pollution in the Yellow Sea Region were considered as possible reasons for shorebird population decline. It was distressing to see more and more evidence of the correlation between stopover sites loss and bird decrease. However, to figure out the leading cause is the first step to find out how to protect the shorebirds. International cooperation is the only way to work on these international birds.



Waiting to fire the cannon net in the sunrise at Lee Point
Photo Kun Tan

Relatively speaking, cannon netting is enjoyable. We waited quietly in the dark till dawn on Lee Point's beautiful beach or behind the shelter at Darwin port, hoping the birds would not notice us. When Clive Minton shouted "Three, two, one, fire!" People ran to the nets to collect the cannons and make sure the birds were away from tide water and blazing sun. It was always exciting to hold a bird in the hand and check its moult, judge its age and guess its migratory story. Most of the second-year birds have done most of their moulting after staying in Australia for nearly one year, while adults have just arrived not long ago and are in the beginning of moulting. Metal bands and Darwin flags were put on, and some birds were fitted with radio transmitters by Amanda Lilleyman, who is a PhD student from Darwin University, so that she could trace their activity ranges. At Lee Point we recaptured one black-and-white flagged Great Knot, which was banded in Chongming Island, Shanghai, China.



My colleague, Hebo Peng, giving a presentation on Yalu Jiang estuary to the Australasian Shorebird Conference
Photo Kun Tan



Judging the age and story of the bird from its moult
Photo Kun Tan

ASC - a Chinese Research Student's Perspective cont.

Besides those shorebirds, I also had fantastic journeys to watch birds in Darwin's sewage treatment ponds (operated by Power Water), Knuckey Lagoons, McMinns Lagoon and Fogg Dam. A huge Rufous Owl flew and stood on the branch just above me for a while, and then skimmed over peoples' heads to the bush around McMinns Lagoon. I also shared sweet time with my host family, Mark de Kretser, Katharine Evans and their two cute daughters, Ella and Florence. We fed fishes with bread in Aquascene and watched and held baby crocodiles in Crocodylus Park and Zoo.

Those trans-equatorial migratory birds can travel millions of metres to utilize different regions' resources to complete their life history. When I tried to find some Australian special gifts in the supermarket and only found a lot of items "made in China", I think we already share the whole world even before traveling.



Celebrating Clive Minton's 80th birthday with a special dessert Photo by Kun Tan

Birds are international. So are human beings. I am looking forward to seeing the birds we banded in China and friends from Australia again.

Kun Tan

Darwin Wader Banding

A large team of AWSG members took part in eight days of successful wader catching in the Darwin area, Northern Territory, between 22 and 29 September 2014, immediately after the Australasian Wader Conference. A total of 432 birds, of 10 species, were caught in seven catches.

The main objective was to get a portfolio of birds, of a good variety of species, marked with engraved flags to aid the PhD studies of Amanda Lilleyman at Charles Darwin University. She also deployed radio transmitters on some 40 individual birds. The only failure was that we did not catch her top priority species, Eastern Curlew. On the first day we had 21 Eastern Curlew standing in front of one of the nets, but it would not fire. Later we found there was a short-circuit in the firing cable.

Few juvenile birds were present in the samples caught. It may have been because it was too early in the season. But it could also suggest that 2014 was not a good breeding season in the Arctic.

A Great Knot banded at Chong Ming Dao, near Shanghai, in April 2008, was re-trapped, together with several Greater Sand Plovers and Red-necked Stints previously marked during our last wader banding visit to the Darwin area in October 2008.

Clive Minton

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New Zealanders launch survey report at Yalu Jiang

*The long-awaited report on 10 years of wader surveys at the crucial migratory bird staging site at Yalu Jiang, including recommendations on how to safeguard its future, has been presented to the Chinese authorities at a highly successful launch in the city of Dandong, reports **Keith Woodley***

Our time at Yalu Jiang this year turned out to be quite different to previous visits. For one thing, we were unable to complete a full survey of the reserve, largely due to other commitments. However the nature of those commitments far outweighed the loss of count data for this season. Our main objective was to launch the *Yalu Jiang survey report*, the document on which Adrian Riegen and Gillian Vaughan had spent countless hours of toil.

Such is its importance - demonstrating the reserve to be the most significant staging site in East Asia during northward migration - that we wanted to make the launch as high profile an event as we could manage. In this we succeeded beyond our expectations.

Past visits to China were largely Pukorokoro Miranda Naturalists' Trust (PMNT) affairs, mostly self-funded by the participants. However this year the expedition was jointly funded by the Ministry of Foreign Affairs and Trade (MFAT) and the Department of Conservation (DOC), with PMNT contributing toward costs of the launch event. Joining our team of Adrian Riegen, Estella Lee and Keith Woodley, were two DOC staff members, Dr Carol West, manager terrestrial ecosystems, and Bruce McKinlay the flyway officer responsible for New Zealand's role in the East Asia-Australasia Flyway Partnership (EAAFP).

This direct government involvement represented a step change for us. It meant, for example, full support from the New Zealand Embassy in Beijing. More significantly it resulted in Carl Worker, the NZ Ambassador to China, flying to Dandong to assist with launching the report. The Ambassador's participation in the event meant more senior officials on the Chinese side were also present, including one of the department chiefs from the Ministry of Environmental Protection in Beijing, and Pan Shuang, Vice-Mayor of Dandong.

Ambassador Worker was not familiar with shorebirds and confessed to knowing little about godwits. This quickly changed. Like so many others encountering it for the first time he became enthralled by the godwit story. He was also clearly impressed by PMNT and what we have achieved in our engagement with the flyway.



Keith Woodley, Estella Lee, Ambassador Worker and Adrian Riegen

Prior to the trip, we prepared a briefing paper outlining the chronology of our involvement with the flyway. Commencing with early banding activities in 1979, it is an impressively long list, which did not go unnoticed among MFAT and embassy staff.

The Chinese did their part in raising the profile of the report launch, scheduling it to occur during a week-long bird festival celebrating the shorebirds of Yalu Jiang. Several kilometres west of Site 2 on the new coast road a vast new complex has appeared since we were last here in 2010. The spacious interior suggests it could serve as a basketball stadium, but it is the Donggang Tourist Service Centre. This is where the Bird Festival is based, and the venue for an enormous photo exhibition. Most images appear to have been taken locally, and many feature the bird flocks of the region. The building itself particularly caught the attention of the builder among us, for it is clad entirely in wood, highly unusual in this part of China. Vice-Mayor Pan, who was a member of the Dandong mayoral delegation that visited Miranda in 2005, explains that our wooden Shorebird Centre so impressed her that when the Tourist Centre was being planned she insisted on using wood.

Aquaculture ponds separate the complex from the seawall on which sit four double-storey bird hides. Here, and at another site several kilometres along the coast, we encounter hundreds of people all drawn by the bird flocks on display. Our scopes were well used, and constant queues formed behind each of them. For many it was clearly a multi-generation family occasion, with frail and elderly people assisted by kinfolk towards the scopes.

New Zealanders launch survey report at Yalu Jiang cont.



People queueing to look through telescopes at the Bird Festival celebrating the birds of Yalu Jiang

Also prominent among the crowds were members of the Dandong Birdwatchers Club, some of their volunteers - immaculately clad in sky blue tracksuits and gold-fringed sashes - acting as guides for the public. Other members were noticeable for their camera gear, for the club appears to be predominantly made up of photographers. This level of public interest was gratifying, for it suggests growing awareness of the shorebirds which may assist with helping secure their future. Indeed there is evidence to suggest substantial change in China's policy towards the environment. There is certainly recognition that continued environmental degradation in pursuit of economic development is no longer the path to follow. Proceedings from the Third Plenary of the Communist Party last year contain numerous references to 'building ecological civilisations' and establishing 'ecological red lines,' and both were referred to by officials during our discussions in Beijing. The presence of the regional party secretary at a meeting in Donggang with Ambassador Worker, Vice-Mayor Pan and New Zealand delegation leader Carol West, is also seen as an indication of high-level interest in Beijing.

Slowing development?

There is an enormous amount of building activity on the fringes of Donggang - both industrial and residential apartment blocks. However, there are also large numbers of new buildings, many of them factories, that appear to be unoccupied, or the construction of which has stalled. We notice this elsewhere, seeming evidence of either an economic downturn or capacity exceeding demand.

The ever-growing port at Donggang however, remains a problem. From any vantage point at the eastern end of the reserve, where some of the biggest bird concentrations occur, it dominates the backdrop: the medley of huge cranes and the

enormous 7 km seawall jutting out from what used to be Site 1 on the reserve. The new wall has major hydrological implications, in that it will affect tide and current, and sediment deposition. However, the news is not all bad for shorebirds, at least not yet. While the new port area is under construction it offers vast open spaces suitable for high-tide roosts, which birds have quickly discovered. Each day we watched vast flocks settling somewhere within the port. This presents a tantalising notion: what if the port could be persuaded to set aside an area - a few hectares only would be required - as a permanent managed roost? This is something we raised in discussions with reserve management and staff, and also with Vice-Mayor Pan. The response is positive and we are hopeful we can initiate talks with the Port Company.

Friendly faces in Beijing

A week in Beijing is largely spent meeting with various government officials, university staff and a longstanding friend of Miranda. This is Chen Kelin, Director of Wetlands International, China, who has been an essential contact for most of our activities in China. We also meet Professor Lei Guanchun, from Beijing State Forestry University, the Chinese Flyway Officer responsible for the EAAFP. Dining with him and some of his staff and research students is particularly enjoyable for some of these are shorebird people.

At the Ministry of Environmental Protection we meet a familiar face: Dr Zhang Wenguo, now a division director, was present at the launch of the Miranda-Yalu Jiang sister-site partnership in Dandong in 2004. We have further meetings at the State Forestry Administration and the Chinese Academy of Forestry.

Two key themes dominate all these discussions: ensuring continued protection for the shorebirds of Yalu Jiang, and exploring ways to establish a reserve at Nanpu, on the Luannan Coast, the most important flyway stopover site for the steeply declining flyway populations of Red Knot.

For most of our time in Beijing we are supported by the New Zealand Embassy. Political Counsellor Gabby Rush, who proudly hails from West Auckland, meets us for a briefing on what to expect during our visit. Having Estella Lee with us again proves immensely valuable, but for several meetings in Beijing Lea He from the embassy relieves her of the burden of being our interpreter.

Bohai Bay and Red Knots

Two and half hours drive east of Beijing we reach the first of the saltpans on the edge of Nanpu. It is a further 35 minutes drive to the seawall

New Zealanders launch survey report at Yalu Jiang cont.

through a vast network of saltpans and, closer to the wall, sea cucumber ponds. In every direction, there are further signs of human activity: power stations, pylons, oil drilling rigs, apartment blocks and a correctional facility – all viewed through a murky haze.

This area on the Luannan Coast on northern Bohai Bay, is of intense interest to us for it is Red Knot country. Out on the seawall we meet up with Chris Hassell of the Global Flyway Network team. With Ady Boyle, Matt Slaymaker and Chinese colleagues, Chris has been monitoring birds up here since 2007. It is their work that has documented so vividly the importance of this site for Red Knots, and the steep decline in the population.

We only have a few hours here before we need to return to Beijing, but the whirlwind tour is sufficient to give us a good overview of the place and the issues it faces. It is an area of rapid growth. Far off to the east, we can just make out some port cranes that mark the edge of the CaoFeidian port development, an enormous project symbolising both the scale of economic growth in China and the intense pressure it places on shorebirds. During our tour we encounter two big new bridges standing in splendid isolation in the landscape waiting for a new four-lane highway to reach them. Chris points to a major oil facility, explaining that it sits directly on top of the site where they had the highest bird counts in 2009. Efforts to establish a reserve on this coast assume even more importance.

North Korea

Fresh from its success in China, Pukorokoro Miranda Naturalists' Trust has signed an agreement with North Korea to develop a programme of shorebird surveys in its important but largely unknown stopover sites.

The signing ceremony is a brief one. In a small, narrow conference room in a Pyongyang hotel, Jong Yong Nam, Vice-president of the Nature Conservation Union of Korea (NCUK) and Adrian

Riegen for Pukorokoro Miranda Naturalists' Trust sign an agreement on exchange and cooperation.

The key objective of the partnership is to develop a multi-year program of shorebird surveys in North Korea, commencing in 2015.

The low-key nature of the ceremony belies its significance: for here is an opportunity to fill an enormous gap in our knowledge of shorebirds in the Yellow Sea. Since Mark Barter's pioneering work in the 1990s, key stopover sites in China and South Korea have become well known, but the west coast of North Korea largely remains a mystery to outsiders.

The draft work programme identifies four sites to be progressively surveyed and documented over four years. Year three offers a particularly tantalising prospect: surveys of Sin Do, the island, which lies just across the border from China. Immediately to the east of the Yalu Jiang reserve, and beyond the port of Donggang, is the Yalu River. While it is outside the reserve, counts of shorebirds along the river were made whenever possible during the ten-year survey period, turning up significant numbers. But it was not uncommon to also watch huge flocks disappearing over the border to roosts in North Korea. Inevitably there developed an intense interest in pursuing those flocks, and with this agreement there comes a very real possibility of doing just that. The ultimate goal would be to conduct simultaneous surveys on either side of the border.

There is, however, one significant hurdle. The North Koreans lack the resources and it is up to us to find funding for this programme. We made it clear while negotiating the agreement that we would need to seek funding for each year and if we were unsuccessful the project would not proceed. At this stage we remain confident resources can be found.

Keith Woodley

Conservation Status of Oystercatchers around the World

The new issue of the International Wader Studies (IWS) on Oystercatchers was sent out recently and for many of you will have arrived by now. For those of you not on the mailing list, this publication is now also available online and can be accessed at:

<http://www.waderstudygroup.org/pubs/iws20.php>

Erratum Page 15 of *Tattler* 33 – the note about yellow/white flags engraved T8 should have read white/yellow flags – the combination used in Hong Kong. Yellow/white combination is used in Sakhalin Island, Far East Russia.

The life and times of Red Knot CUE

A pair of Red Knot bred successfully in July 2012 near Meinypilgyno, Southern Chukotka, Russia (coordinates: 62°33'33"N; 177°08'05"E). The male of the pair was fitted with a geolocator, which showed that he migrated to New Zealand to spend the austral summer, returning to Meinypilgyno to breed again in 2013.

One of the chicks of the 2012 brood was banded aged four days with a metal band (MOSKVA HS009614) and a lime green band. A week later it was re-caught and had a white flag engraved CUE added. Nothing more was heard of this chick for the next 14 months, but then Liz Crawford and Chris Herbert saw it in the Hunter Estuary, NSW on 18 September 2013, where it stayed for at least the next 22 days.

CUE's next move was to cross the Tasman Sea to New Zealand, as virtually all first-year Red Knot do, as it was seen by the vigilant Tony Habraken on 24 March 2014. It was in good body condition (ABP 5), but only a bit over 50% breeding plumage. Therefore, Tony felt that it was in a condition that it could take on a migration, but was unlikely to be intending to breed.

Liz and Chris saw CUE again in the Hunter Estuary on 28 August 2014 in good body condition, with just a trace of breeding plumage left. Where had it been? Tony and Adrian Riegen both felt that this bird had probably not crossed the equator. Tony was basing his judgement on the plumage shown in photos taken by Chris. Tony felt the photos showed not many worn or old mantle, scapulars or wing coverts, so these had either been replaced early or were retained winter plumage, which suggested it may not have gone the full distance and was more likely to have spent the breeding season in the southern hemisphere somewhere. Even the outer primary tips were still in good condition. He also knew that many 18-month-old birds go on short trips like this. Adrian added to this with the observation that they did have some knots in the Gulf of Carpentaria in non-breeding plumage in autumn that had probably only travelled that far north and were unlikely to go much further north. In early April 1999 he saw an orange (Victorian) flagged knot in non-breeding plumage that had probably just come north and wasn't going any further that year.

CUE may have spent the austral winter in the Gulf of Carpentaria, or thereabouts, and then started its return to New Zealand in August 2014 by joining the early birds returning from the arctic.

The photo shows a well-rounded CUE next to a thinner, more dishevelled knot that could more

realistically have just returned from a breeding migration.

Pavel Tomkovich added that CUE was not seen at its hatching grounds this season, but this was not unusual as some dispersal is common when birds first return to the breeding grounds. He added that if it is a female, it will probably return to the study area that it came from in future years, but if a male, it may find another breeding site.

CUE stayed in the Hunter Estuary until 9 September 2014, and it was next seen by Tony Habraken in New Zealand on 5 October 2014. Great interest has been generated among those people associated with CUE's movements so far and it is hoped that more of its life travels will unfold through future sightings. All the evidence generated by this bird is consistent with what is known about Red Knot, but it is good to gain further confirmation of these practices.

This note was compiled from an amalgam of input from Liz Crawford (NSW), Chris Herbert (NSW), Pavel Tomkovich (Russia), Tony Habraken (NZ) and Adrian Riegen (NZ).

Rog Standen

Coordinator of AWSG flagging database



Red Knot CUE in good condition in the Hunter Estuary, probably having spent the 2014 breeding season around the Gulf of Carpentaria, with another knot that looks to have returned from the arctic. Photo taken on 28/08/2014 by

Oldest Curlew Sandpiper

Recently, Clare Morton saw a Curlew Sandpiper in Broome which was originally marked there 21 years ago. This is the oldest Curlew Sandpiper yet, deriving from banding/flagging in Australia, and probably the oldest for anywhere in the world.

The promise to return

Site fidelity of long-distance migrating shorebirds

It is not rare that a particular bird is found at the same site in different years, even for long-distance migrating shorebirds that travel up to tens of thousands of miles. What makes it incredible, is that sometimes a bird may be sighted again in the exact same pond as the previous year. Having flown all the way across the Pacific Ocean to the same site, these migratory birds are just like people going home after a long trip.

"I must live longer so as to safeguard my birds," conservationist David Melville once told me at Yalu Jiang Estuary. The oldest oystercatcher which he banded is now already 36 years old, and was recently sighted again. I wish David can continue to work after 80 years old, then we can keep on walking a few km a day on the mudflats to watch birds and record leg-flag sightings.

What was said above actually told us about the special relationship between shorebirds and scientists, as well as banding. Banding or leg flagging allows us to explore not only shorebirds' migration, but is also important to ecological research. In fact, observation of banded shorebirds is an important and exciting part of shorebird study. Below are some interesting stories of our findings, which also highlight the need for coastal wetland protection.

Story 1: The gloomy ASH

The mudflats at Yalu Jiang Estuary are a vital stopover site for Bar-tailed Godwits along the East Asian-Australasian Flyway. In recent years, hundreds of Bar-tailed Godwits and Great Knots with colour flags or bands returned to Yalu Jiang every spring. The numbers or letters on their flags or the colour combination of the bands allow identification of individual birds, some of which are resighted year after year, and even at almost the exact same spot!

One of the most memorable is a female Bar-tailed Godwit banded on the North Island of New Zealand, with a flag marked "ASH". We remember her so well because our first encounter was quite interesting – her bill was pinched by a clam. Sometimes we see shorebirds being pinched, but not always a banded one. Besides, there is an important bird-watching spot in Yalu Jiang named ASH pond – sharing the same name as the bird. Bird watchers on that day were happy to see her and she should have made a strong impression on everyone's mind.

Falling tide is good time for feeding. While ASH's mates started to feed on the mudflats, all she

could do was stand gloomily in the water, waiting for the clam to let go. It was 5 May 2011 at Site 2 of Yalu Jiang Estuary. From the photo, we can tell that she is about to leave for Alaska as she had attained full breeding plumage, and obviously gained enough weight. The white flag ASH was attached to her right leg.

Two years later on 13 April 2013, I saw ASH again at Site 6 of Yalu Jiang Estuary. I recognized her by her flag and recalled the interesting scene of her previous visit. I immediately took a photo of her and said hello. We could tell from the photo that she was changing to her breeding plumage. She was a little bit thin and weak, and eating like crazy. She may have to stay for at least 2 weeks to put on enough weight for her long trip.

Sites 6 and 2 of Yalu Jiang are linked to each other. Therefore, birds feeding at Site 6 are usually washed to Site 2 during high tides.

On 26 April 2014, ASH was sighted again for the third time at Site 5. The bird was found feeding on the mudflat between Sites 5 and 6, which are 5km apart.

The story of ASH will go on in Yalu Jiang.



Bar-tailed Godwit ASH with clam on bill
Photo Mr Qing-quan Bai



Bar-tailed Godwit ASH on 13 April 2013
Photo Mr Qing-quan Bai

The promise to return cont.

Story 2: The Promised Return of JPX to the Yalu River Estuary

Another Bar-tailed Godwit who also appeared at the Yalu River estuary was JPX who came from Roebuck Bay in northwest Australia. His story is one of the most representative examples of shorebirds who are strongly faithful to their stop-over sites.

Within the six years between 2008 and 2013, JPX had been sighted at the Yalu River estuary 15 times. All the sightings were recorded at the mudflats of Sites 5 and 6 and the nearby ponds, during north-bound (14 times) and south-bound (1 time) migrations. Sightings were reported every year except 2009 due to the lack of observers or bird watchers.

Sites 5 and 6 are five kilometres apart. This means that in these few years when this bird stopped over at Yalu Jiang Estuary during his migration, the area between Sites 5 and 6 was his feeding and roosting place. This area was like his home. Each inch on this piece of mudflat could have been probed by his long bill. The saltwater clam, *Potamocorbula* sp., which is widely and abundantly found in the mudflats of the Yalu River estuary, is Bar-tailed Godwit's favorite food.

JPX was ringed on 9 October 2001 at Roebuck Bay in northwest Australia. He was captured again in 2005 at the same location and banded with a yellow leg flag engraved "CS". As the colour of the flag faded away after a few years, the flag "CS" was replaced by another yellow leg flag engraved "JPX" when the bird was recaptured in July 2012 at the same location.

JPX had been sighted several times in his wintering place in Australia before 2008. However, his first overseas record was not reported until 2 September 2008 when he appeared at Site 5 of the Yalu Jiang Estuary. Every Spring in the following four consecutive years, he was seen again at either Site 5 or Site 6 of the estuary for a total of 15 times, of which 12 times were seen by Jimmy Choi, once by David Melville and twice by the author. He was even found roosting at the same pond as the previous year.

During his northbound migration in 2012, JPX was sighted 5 times between 14 April and 16 May. It was guessed that he might have stayed at the Yalu River estuary for at least 33 days. This suggested that the wetland at the Yalu River estuary is the most important staging area for JPX before he flew north to his breeding ground.

From the information sorted out from leg-flag resighting records, we have found that there are some old friends who visit Yalu Jiang Estuary punctually every year, just like they have made a promise with the estuary. We believe that if birders can pay more attention to leg flags on shorebirds, we will have more bird stories like JPX.

Epilogue:

Having worked on China Coastal Waterbird Census for eight years, we understand that certain waterbirds are extremely faithful to their staging grounds during migration, thus each and every site along their migration flyway is important to them. The impact can be fatal if there is a problem in any of these links. This explains why certain sites are crucial to certain birds, such as the Yalu Jiang Estuary to Bar-tailed Godwits and Far Eastern Curlews, Jianggang and Rudong to Nordmann's Greenshank and Spoon-billed Sandpipers, and Luannan to Red Knots and Curlew Sandpipers ... If these sites are damaged, it will be disastrous to the birds that need these wetlands. The most obvious example is the disappearance of 90,000 Great Knots in Saemangum wetland of South Korea after reclamation. Therefore, to protect shorebirds in coastal wetlands, the most important thing is to protect the wetlands which these waterbirds highly rely on. Sometimes I wonder that the birds we have seen in a piece of wetland at the same time in different years are probably the same ones that would come back to that particular place at that particular time year after year. Some people call it a promised return.

Mr Qing-quan Bai

China Coastal Waterbird Census Team



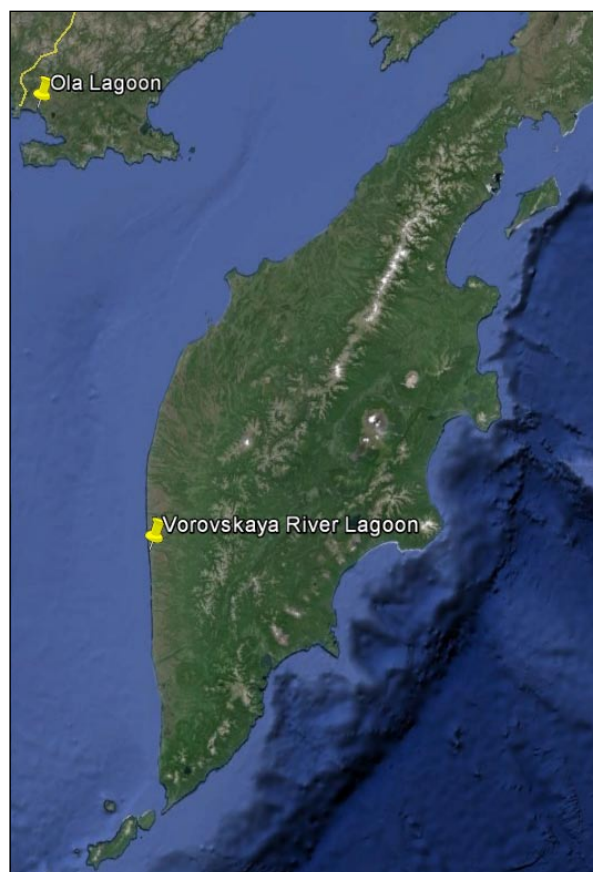
Bar-tailed Godwit JPX
Photo Mr Qing-quan Bai

Shorebird migration study on Kamchatka, Russia in July 2014

The first step in shorebird southward migration studies was carried out in Vorovskaya River Lagoon (West Kamchatka coast: 54° 11' N, 155° 49'E) on 18 - 28 July 2014 with support of Asian Waterbird Conservation Fund and Birds Russia using RSPB financial support. Vorovskaya River Lagoon is located on the central part of the west coast of Kamchatka Peninsula. This narrow lagoon is about 40 km long and 0.1–1.2 km wide. We investigated the 5km southern part of this lagoon with big mudflats and some sandy islands which appear during low tide. Ornithologists have never worked in this area before.

Shorebirds were counted each day on mudflats during low tide. Our July counts were of migrating adult shorebirds. The total number per day was much higher than we expected – 3200 - 6900 individuals (see Table).

In addition to the 17 species mentioned in the Table, we also recorded Pacific Golden Plover, Great Ringed Plover, Common Sandpiper, Terek Sandpiper and Common Snipe outside the mudflats. Also we observed 12 flagged shorebirds with yellow, orange and pale blue flags. Information about those will be presented later. We intend to continue observations at this location.



Hiroshi Tomida, Yuri Gerasimov & Rimma Bukhalova

Species	Date of July 2014								
	19	20	21	22	23	24	25	26	27
Mongolian Plover	75	87	65	100	61	102	43	59	66
Oystercatcher	–	5	1	1	–	–	1	–	–
Red-necked Phalarope	–	2	–	–	–	–	–	–	–
Ruddy Turnstone	–	3	–	3	–	–	–	–	–
Dunlin	1316	881	849	926	1410	1443	1526	1537	3177
Long-toed Stint	–	2	–	–	5	–	–	–	–
Red-necked Stint	2210	1184	1614	1295	792	1139	733	1360	2242
Red Knot	25	42	66	9	–	53	26	–	27
Great Knot	178	1607	397	662	426	2247	1227	532	409
Wood Sandpiper	1	–	–	–	–	–	–	–	–
Spotted Redshank	–	–	–	–	–	–	1	–	–
Greenshank	3	–	–	–	–	–	–	–	–
Grey-tailed Tattler	–	2	–	3	2	19	1	–	–
Black-tailed Godwit	788	1162	476	583	506	948	468	148	997
Bar-tailed Godwit	64	27	8	3	–	3	–	–	–
Eastern Curlew	3	–	3	1	4	–	5	–	8
Whimbrel	71	38	153	–	–	–	1	–	10
TOTAL	4734	5042	3632	3586	3206	5954	4032	3636	6936

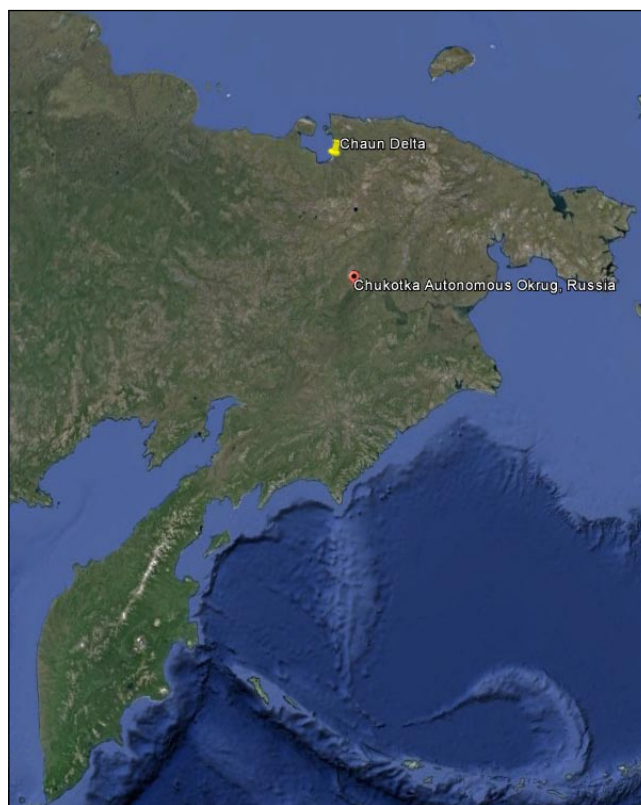
Chaun Delta is one of the breeding grounds for Dunlins ringed on North Sakhalin

Thanks to the performance of works under the project Arctic Shorebird Demographic Network www.manomet.org/ASDN in Chaun Delta (Western Chukotka, Russia), we found breeding grounds of Dunlins which stop on North Sakhalin, Russia on southward migration.

Odoptu Bay, North Sakhalin Island, is an important habitat which provides good conditions for migrating waders and is used as a stopover on the East Asian-Australasian Flyway. More than 3000 Dunlins were ringed here in 2009-2012. Due to re-sightings of these birds within this period the wintering area of these birds was outlined. It is restricted to the coast of East China and South China seas and includes various areas of China, Taiwan, and the South Korean peninsula. But the exact location of the breeding grounds of Dunlin populations migrating here was not known until now.

On 17 June 2014 in Chaun Delta, a bird ringed in Odoptu Bay on Sakhalin Island on 23 August 2012 was recaptured. Thus we have obtained reliable information about one of the breeding areas of Dunlins which migrate via Odoptu Bay.

Continuing the Arctic Shorebird Demographic Network project in June 2014, we also retrieved 12 geolocators (now in processing), deployed here in June 2013. We are hoping that information from them will provide a more detailed pattern of migration in the region.



Chaun Delta location

Alexander Matsyna calidris@mail.ru
Ekaterina Matsyna, Ivan Tiunov, John Diener, Lizzie Goodrick

Student research project – honours or postgraduate

How important are urban wetlands for Latham's Snipe? A multi-scale investigation into the patterns of habitat use by Latham's Snipe in south-western Victoria.

Latham's Snipe is a cryptic, migratory shorebird that breeds in Japan and spends its non-breeding season in eastern Australia. Some of the largest concentrations of snipe in Victoria occur in association with urban wetlands, particularly the Powling Street wetlands at Port Fairy. This site will be substantially reduced in size as a result of an impending housing development. This loss of habitat, combined with increased disturbance to roosting and foraging birds, is expected to reduce the suitability of the site for snipe, potentially resulting in a decline of the population.

The objectives of this study are to undertake surveys of Latham's Snipe to determine patterns of habitat use and estimate relative carrying capacity of the site. This will be done in conjunction with a GIS analysis of temporal and spatial wetland changes since snipe monitoring began in the seventies.

Research questions:

1. How do the spatial patterns of habitat use by Latham's Snipe at Powling Street wetlands vary over their non-breeding season?
2. What is the relative importance of urban wetlands to Latham's Snipe in the broader Port Fairy region?
3. How has wetland availability changed over time in western Victoria, and how does this relate to changes in reporting rates of snipe?

We are seeking an enthusiastic and self-motivated undergraduate or postgraduate student to work with staff at Federation University Australia, South Beach Wetland and Landcare Group and University of Melbourne on this project. It will involve targeted field surveys, behavioural observations, analyses of Latham's Snipe count data and spatial analysis of changes in wetland availability. Experience with waterbird observation, GIS analyses and ecological modelling is desirable.

Please contact Birgita Hansen for further information:
b.hansen@federation.edu.au

On the hunt for shorebird hunting

While there is little doubt that habitat loss is playing an important role in the declines of migratory shorebirds in our flyway, other threats are at play and deserve research attention. Anyone familiar with the story of the Spoon-billed Sandpiper (SBS) will know that hunting is a key threat to the dwindling population of that species. The great work that the SBS conservation team did with hunters demonstrated that hunting can be managed through direct action on the ground. Unfortunately, our understanding of hunting across the East Asian-Australasian Flyway at large is rather fragmented.

We want to synthesise everything we know about hunting in our flyway so we can plan management strategies to reduce the threat. We would like to hear from anyone who has information on hunting anywhere in the Flyway. Please contact me directly or fill out our very short survey at <http://www.surveymonkey.com/s/58LDZ83>

Ed Gallo-Cajiao
(e.gallocajiao@uq.edu.au)
Fuller Lab
School of Biological Sciences
The University of Queensland

Convention on Migratory Species News

1. In early November 2014, the Convention on Migratory Species (CMS) CoP11 plenary in Quito, Ecuador formally adopted the CMS Global Programme of Work on Flyways and Americas Flyways Framework.

The final resolution and two annexes are available on: http://www.cms.int/sites/default/files/document/cop11_crp29_dr_migratory_birds_flyways.pdf

2. The CMS Flyways Reviews (1, 2 and 3), generated during the last triennium, have now been published as CMS Technical Review (A REVIEW OF MIGRATORY BIRD FLYWAYS AND PRIORITIES FOR

MANAGEMENT, authored by Colin A. Galbraith, Tim Jones, Jeff Kirby and Taej Mundkur). This publication, which contains some recommendations for the East Asian-Australasian Flyway, can be freely downloaded from: <http://www.cms.int/en/publication/review-migratory-bird-flyways-and-priorities-management>

3. The Red Knot, Bar-tailed Godwit, Great Knot and Far Eastern Curlew have been accepted as concerted action species by CMS.

Yvonne Verkuil
Chair, IWSG

Oil Spill Wand receives Google grant

Wildlife affected by oil spills will soon have access to dry cleaning thanks to a \$250k Google grant awarded to the Penguin Foundation for new technology being developed in Victoria, Australia.

The technology, dubbed the 'Oil Spill Wand', works when iron powder is applied to an oiled animal and binds with the oil. A magnetic wand is then waved over the animal, drawing up the metallic powder and oil. Traditional oil spill cleaning methods rely on hot water and detergent, and wildlife are easily stressed while scrubbed clean or transported and housed in special facilities.

The technology is part of a joint research and development program being conducted by Dr John Orbell at Victoria University and researchers at the Penguin Foundation and Phillip Island Nature Parks.

The project was one of 10 finalists in the Google Impact Challenge Australia - a Google grant competition for charities developing technologies to tackle global problems and transform lives. Four finalists were awarded \$500k based on public votes and a judging panel. The remaining six, including the Oil Spill Wand, were awarded \$250k from Google.

Oil spills have a devastating effect on the environment but with the funding the team aim to further develop the Oil Spill Wand and dramatically reduce the impact oil spills have on wildlife, including penguins, otters and even turtles. The project team hopes to make the Oil Spill Wand available to Wildlife Rescue Centres across the world within three years.

Danene Jones
Communications Executive
Email djones@penguins.org.au Web www.penguins.org.au

The monumental tale of a Spoon-billed Sandpiper

On 4 September 2014 Chinese birders spotted a leg-flagged Spoon-billed Sandpiper at Rudong, an important staging post for this critically endangered wader. A flurry of emails soon revealed that this tiny bird was in fact Lime 01, also known as the Monument male because his breeding territory is near a monument in Chukotka, Russia. Lime 01 staged at Rudong last year as well and stayed for the duration of his moult. It is likely he'll do the same again this year.



Lime 01 was banded and received his ID flag 01 in 2013. We can only guess that in former years it was the very same male breeding in the locality of the Monument. If so, he has been successfully hatching chicks with his partner since at least 2010.

In 2012, the field team collected some of their eggs for conservation breeding at WWT, Slimbridge.

In 2013, the team took Lime 01's first clutch into captivity for headstarting. Three of the young from that clutch fledged successfully and subsequently migrated. Added to that, Lime 01 and his partner laid a replacement clutch and reared a further three chicks to fledging.

In June 2014, the team again took Lime 01's first clutch for headstarting, successfully rearing and releasing two chicks, M9 and P9. They were last observed in Meinypilgyno at the beginning of August. We know that Lime 01 and his partner reared at least two additional chicks, with a possibility of a third, but as only one chick was fitted with a metal ring we can't be completely sure.

On average, wild Spoon-billed Sandpipers only rear 0.6 chicks per nesting attempt, so this bird has produced significantly more offspring than the average!

The Monument male has become a familiar sight for the headstarting team, this year he reared his replacement brood just a few hundred metres from where the majority of headstarted chicks flocked after being released from the rearing aviary. His presence may well help those headstarted birds adapt to natural conditions.

Director of Birds Russia Evgeny Syroechkovskiy said: "In a way "Lime 01" could be seen as a mentor of all headstarted birds and as having contributed to his species' survival much more widely than just with his own chicks".

Lime 01's contribution to the headstarting programme has been phenomenal and to see him on yet another migration has been welcome news to all the teams involved with Spoon-billed Sandpiper conservation.

Evgeny Syroechkovskiy continued: "Let's wish him safe travels and long life and for now, a comfortable stay in Rudong".

Source: www.saving-spoon-billed-sandpiper.com/2014

North Western Australia Wader and Tern Expedition 2015

We are still short of a few people for the next NWA Expedition, which takes place from 6-28 February 2015. For the first half of the expedition we will be based at Broome Bird Observatory, and for the second half at Anna Plains Station on 80 Mile Beach. We usually catch three to four thousand waders and terns during the three-week period, of

a huge variety of species. Participants are most welcome, especially from overseas, even if they do not have any previous wader banding experience. Would anyone interested please contact Clive Minton:

mintons@ozemail.com.au

Little Curlew Update 1 October 2014

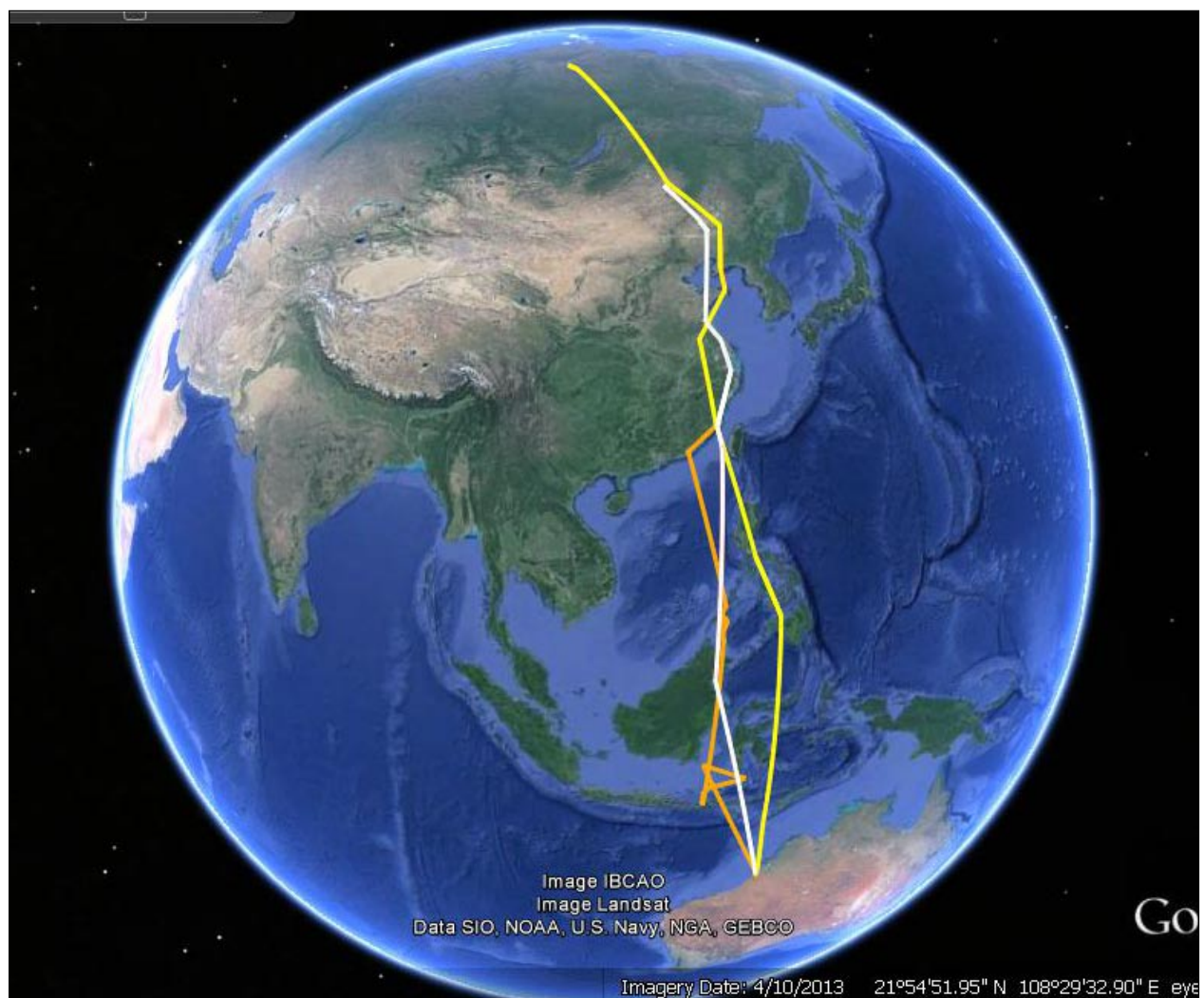
The first of three Little Curlews with a transmitter arrived in Australia in late September 2014, having completed its southward migration. LC 131947, which was one of the two birds that left late and stopped in Daursky Marshes (and stayed there for 3.5 months), has landed 50 km west of Victoria River, Northern Territory, and 90 km northeast of Kununurra, Western Australia. This bird has flown an amazing 7000 km non-stop from Daursky Marshes to Australia. The last fix for this bird was on 24 September and first fix of migration on 26 September over the Pacific Ocean, 600 km southeast of Taiwan. First fix in Australia was on 30 September 2014.

The other two Little Curlew with transmitters are also on their way. LC 131945, which flew all the way to the breeding grounds, left the Daursky Marshes on 24 September two

months after it arrived there from the breeding grounds. The last fix for this bird was on 27 September, 300 km east of northern Philippines. Its path was very similar to that of LC 131947 and we expect it to arrive in Australia in early October.

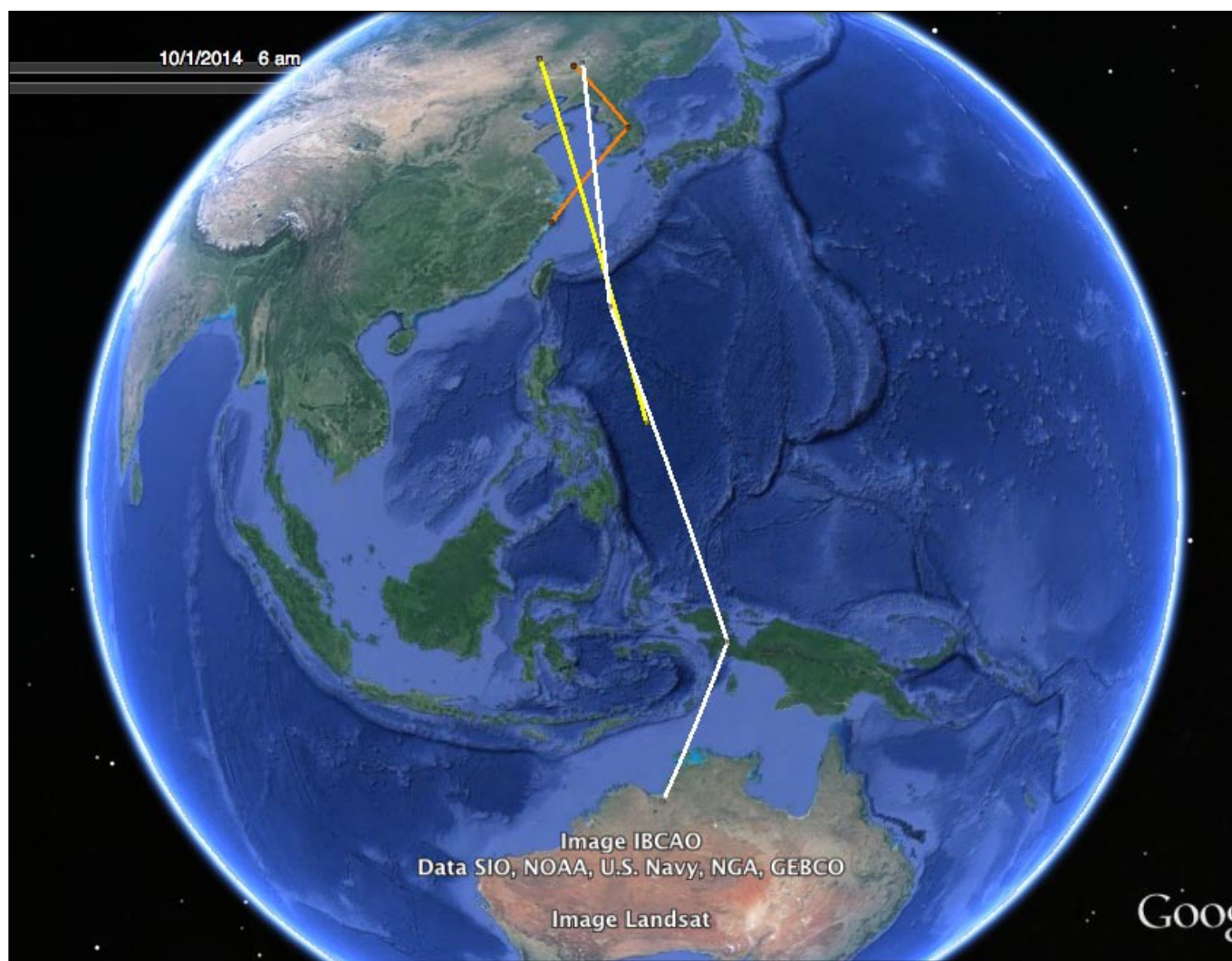
The third bird, LC 131943, which stopped over in Lombok for three weeks on northward migration, departed the Daursky Marshes between 14 and 16 September, where it had been for two months. It flew 950 km and had a brief stop-over in South Korea, east of Chungju and south of Jecheon. This bird then flew southwest and landed on the Chinese coast between Shanghai and Fujian, 1150 km from its previous location. Last transmission from this bird was 21 September 2014.

Inka Veltheim



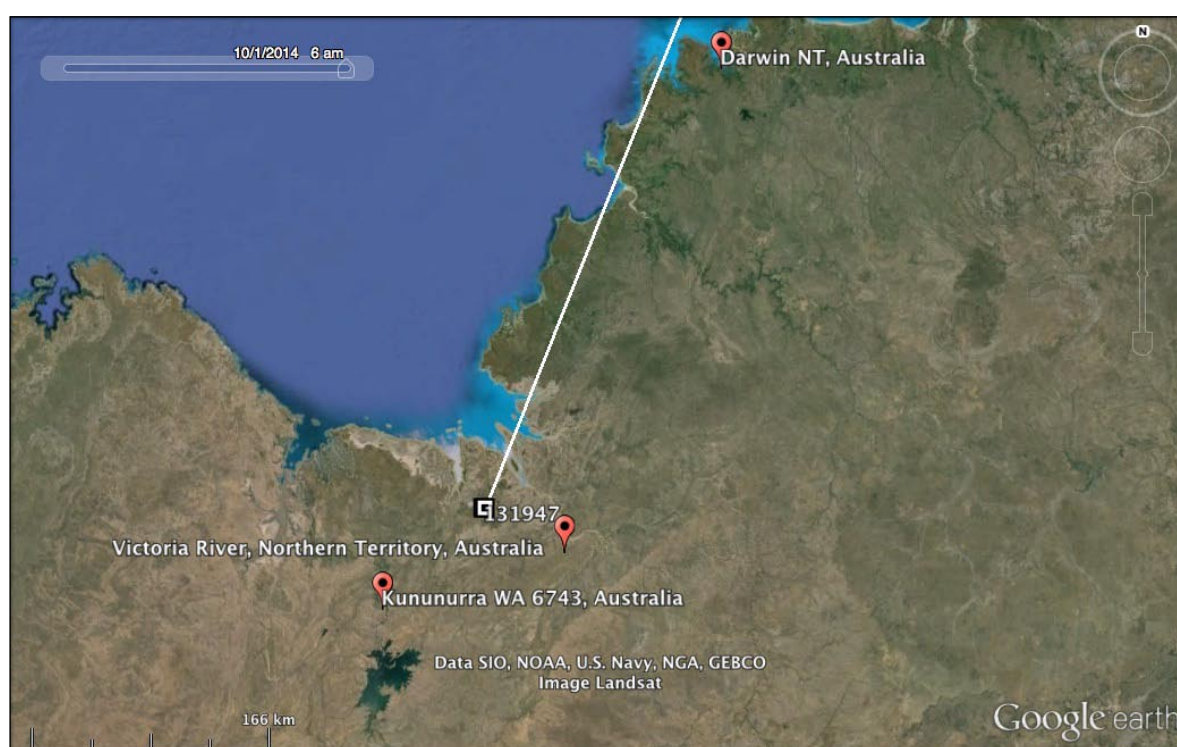
Northward tracks of three Little Curlew fixed with satellite transmitters in North Western Australia in 2014

Little Curlew Update 1 October 2014 cont.



Top: Southward tracks of three Little Curlew

Bottom: Arrival site in Australia of first Little Curlew on southward migration, 30 September 2014



Chinese Crested Terns comeback - Jiushan Islands, China

The audio-visual social attraction of Chinese Crested Terns at the Jiushan Islands had a second and even more successful year: at least 43 Chinese Crested Terns arrived and stayed on the island of Tiedun Dao this breeding season (from mid-May to early August 2014), and at least 20 breeding pairs formed. In early August at least 13 young Chinese Crested Terns fledged. For a species with a previously known global population of not more than 30 birds (current estimated global population not more than 50 individuals), this is a remarkable, almost miraculous, success.

Chinese Crested Terns were presumed extinct in the late 20th century. This species was rediscovered at the Mazu Islands along the coast of Fujian Province in 2000, and one new colony was discovered at the Jiushan Islands, Xiangshan County of Zhejiang Province, in 2004. Because of illegal egg collection, however, the terns ceased to breed on the Jiushans after 2007 and the colony apparently moved to the Wuzhishan Islands in the same province.

Since 2011, BirdLife International and the Hong Kong Bird Watching Society (BirdLife in Hong Kong) have been working with Zhejiang Museum of Natural History, the Zhejiang Wild Bird Society, the Ocean and Fishery Bureau of Xiangshan County, and a team of tern experts from Oregon State University in the United States on a restoration project for Chinese Crested Terns in the Jiushan Islands, using the audio-visual social attraction methods of decoys and playback of tern calls developed by Dr Stephen Kress, Vice President for Bird Conservation at the National Audubon Society (BirdLife in the USA). Dr Kress observed that "the results of the summer demonstrate how dedicated biologists can make an enormous difference for saving species by taking direct action at the right place and time. The results of this past summer offer new hope for the most endangered seabird in the world."

The restoration work started during the breeding season in 2013 - see: <http://www.audubon.org/newsroom/press-releases/2013/china-s-rarest-seabird-benefits-colony-restoration>. The first year was extraordinarily successful, but the new colony got a late start compared to the normal tern breeding season. To make sure that no adverse factors affected the nesting terns in 2014 and to record the breeding behavior of this poorly known species, a simple monitoring station was built on Tiedun Dao, the 2-hectare island chosen for breeding colony restoration. Simba Chan, Senior Conservation



Breeding pair of Chinese Crested Terns with egg beside decoy

Officer of BirdLife International Asia Division, stayed on the island from 8 May to 8 August to monitor the tern breeding colony and the threats to successful nesting: the most serious predators on nesting terns were a pair of Peregrine Falcons that visited the colony frequently in June and July. An attempt to poach eggs from the colony (illegal egg harvest) was prevented and a poacher was arrested on 3 June after the poacher was reported to the authorities by the monitors. Three typhoons passed through or near the Jiushan Islands during the 2014 breeding season, but did not cause observable damage to the breeding birds and their young. By the end of the breeding season, a large quantity of data regarding the breeding biology of Chinese Crested Terns had been collected and these data will likely prove very useful for future management and design of additional restoration projects for this critically endangered species.

Based on preliminary observations, Chinese Crested Terns appear to be as highly adapted to the marine environment of southeastern China as the more common and closely-related Great Crested Tern. Chinese Crested Terns are highly efficient at finding and catching forage fish and adept at defending their nest sites during territorial disputes with their neighbours (they breed in very dense colonies with six to seven nesting pairs per square metre). The decline and near-extinction of Chinese Crested Terns in the 20th century was probably due to their restricted breeding range; as their name suggests, they were only found nesting along the east coast of China. If illegal egg-collection is completely stopped, they have a good chance of recovering and may eventually re-establish their former breeding colonies in Shandong, where the last birds were collected

Chinese Crested Terns comeback - Jiushan Islands, China cont.

in 1937. Restoration of this northern breeding site may prove to be pivotal for this species, as its current nesting sites in Fujian and Zhejiang are at risk from typhoons during the breeding season.

Although this is an excellent result from the first two years of this restoration project, the Chinese Crested Tern restoration team is concerned that this critically endangered species should not be so concentrated at just a single breeding site. There are suggestions to improve the nesting habitat and use social attraction at the Wuzhishan Islands and the Mazu Islands next year, with better coordination and management at all three sites. To solve the mystery of the Chinese Crested Tern's migration and over-wintering areas, a banding project has also been proposed. Gradually, more will be learned about the biology and migration of the crested terns in eastern China, and these and other seabird populations will be restored with the help of well-designed outreach and education programs. At the 26th International Ornithological Congress (17-24 August 2014, Tokyo, Japan), the Chinese Crested Tern restoration team will chair a round-table discussion on restoration of tern breeding colonies on 23 August. It is hoped more interest on international cooperation and restoration of tern and other seabird colonies will be generated, particularly in Asia, from this project.

This project has been possible through the generous support of the Xiangshan Ocean and Fishery Bureau, the Zhejiang Museum of Natural History, the Japan Fund for Global Environment, the Ocean Park Conservation Foundation (Hong Kong), Endangered Species Fund from the State Forestry Administration of China, Pacific Seabird Group and BirdLife International Preventing Extinctions Programme supporter - Mark Constantine. The two organisations in Zhejiang Province also provided significant logistical support that helped make the project such a resounding success. The US Fish and Wildlife Service (Wildlife

Without Borders) supported the project by providing decoys and playback equipment needed for social attraction.

Simba Chan

Sourced from: <http://projectpuffin.audubon.org/big-comeback-chinese-crested-terns-jiushan-islands-china>



Locations of Chinese Crested Tern breeding colonies

Rethinking China's new great wall

In an article published in the Science Magazine in November 2014, Ma Zhijun, David S. Melville, Jianguo Liu, Ying Chen, Hongyan Yang, Wenwei Ren, Zhengwang Zhang, Theunis Piersma and Bo Li discussed the massive seawall construction in China's coastal wetlands which threatens biodiversity. The introduction and conclusions of this interesting article are presented below – the full article can be accessed on the web.

ECOSYSTEMS MANAGEMENT

China's position as the world's second largest economy is largely due to its rapid economic growth in the coastal region, which composes only 13% of China's total land area, yet contributes 60% of the gross domestic product (GDP). To create extra land for the rapidly growing economy, coastal wetlands have been enclosed by thousands of kilometres of seawalls, whose length exceeds that of

China's famous ancient "Great Wall". This new "Great Wall," covering 60% of the total length of coast-line along mainland China, caused a dramatic decline in internationally shared biodiversity and associated ecosystem services and will threaten regional ecological security and sustainable development. Here, we outline these problems, analyse the drivers behind wetland reclamation, and propose measures for effective wetland management.

FUTURE TRENDS AND COUNTER MEASURES

In 2012, the State Council of China approved National Marine Function Zoning (2011–2020) "to strengthen the management of reclamation projects and to rationally control the reclamation scale." However, according to the Marine Function Divisions formulated by coastal provinces, 250,000 ha of coastal wetlands will be enclosed for infrastructure development and more wetlands for other purposes (e.g., agriculture) by 2020. The reclamation rate is expected to increase to 60,000 ha year⁻¹ during 2010–2020 (see the chart). The loss of coastal wetlands is unlikely to slow down unless more effective measures are urgently taken.

First, legislation is required to set a mandatory minimum area for coastal wetlands at both

national and local levels to achieve a target of "no net loss." This should be based on comprehensive research on ecological, hydrological, and socioeconomic conditions of coastal regions to clarify the importance, sensitivity, and vulnerability of each region and to answer the questions of where, when, and how much coastal wetland can be enclosed without damaging the integrity of coastal wetlands.

Second, an effective agency directly under the State Council is needed to coordinate the functions and responsibilities among the many government agencies involved in wetland management. Overall, reclamation projects should be planned at the national level to achieve the target of sustainable development. Strict environmental impact assessments must be performed on reclamation projects, in which cumulative ecological impacts of multiple reclamations for different regions should be considered.

Third, mechanisms must be established for government authorities to be accountable for ecological losses. For the local governments, it is important to change the model of economic development to decrease their heavy dependence on increasing land area but to increase the added value and the efficiency of existing land.

Finally, outreach and education about ecosystem services and sustainable development are needed to raise public awareness and compliance for conserving coastal wetlands.

In conclusion, adverse socioeconomic and ecological consequences of over-reclamation of coastal wetlands have already emerged. To meet the targets of "ecological civilization" and to support sustainable development, Chinese governments at all levels must place a high priority on the conservation of coastal wetlands and their ecosystem services. It is time to think again about China's new "Great Wall" that is built on the coastal wetlands.

Source:

**[http://www.sciencemag.org/
content/346/6212/912.summary](http://www.sciencemag.org/content/346/6212/912.summary)**