

Tattler

Newsletter for the Asia Pacific Flyways & Australian Shorebirds 2020 Project

No. 35 April 2015

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White-rumped Sandpiper, sixth Australian record. Shoalhaven Heads, NSW, February 2015. Photo by Dan Weller

Editorial

It's always exciting to read about recent survey results, especially when they are unexpected, as are the increasing Great Knot numbers at certain sites in Southeast Asia. Are these birds shifting from habitats that have been lost or is there a happier explanation? It is also exciting to read about new shorebird sites being discovered in Bangladesh – thanks to the efforts of the Bangladesh Spoon-billed Sandpiper Conservation Project - and the amazing spectacle of thousands of Whimbrel migrating southward past Kamchatka in August. Recent research papers on the Yellow Sea highlight the need for continued on-ground surveys and research to justify effective conservation actions, while the report on the 8th meeting of the EAAF Partnership shows how this alliance continues to assist shorebirds and their habitats.

From individual surveyors on the ground to representatives of non-government organizations, researchers and government representatives, the network of people interested in shorebirds is as complex and interwoven as the flyway itself. A new email list serve established by the Shorebird Working Group of the EAAF Partnership provides an avenue for prompt communication among those interested in shorebirds on the EAAF. Theunis Piersma's tribute to Allan Baker highlights the importance of supportive and stimulating friendships between shorebird researchers and enthusiasts. Everyone's contribution is important.

This issue of Tattler provides glimpses of field work, research, outreach to raise awareness, efforts by combined organizations to facilitate habitat conservation and the contributions of one astute researcher. All of these aspects, and many more, are needed to protect shorebirds from extinction.

Liz Crawford, Editor

Contributions are welcome and should be sent to: tattler@awsg.org.au

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Steep upward trajectory in Great Knot numbers at sites in South-East Asia

The number of Great Knots detected at sites in Thailand and Malaysia has increased significantly over the past decade and a half. Given the overall decline in the global Great Knot population, this begs explanation.

The wintering of at least small numbers of Great Knots in the Inner Gulf of Thailand has been known since the early 20th century (Williamson 1918) and, outside of the spring and autumn passage, non-breeding season (Palearctic midwinter) numbers remained at the same order of magnitude (a few tens of birds to c. 100 birds) until roughly year 2000. In the subsequent one and a half decades, midwinter counts rose steeply to over 6,000 at present (**Figure 1**).

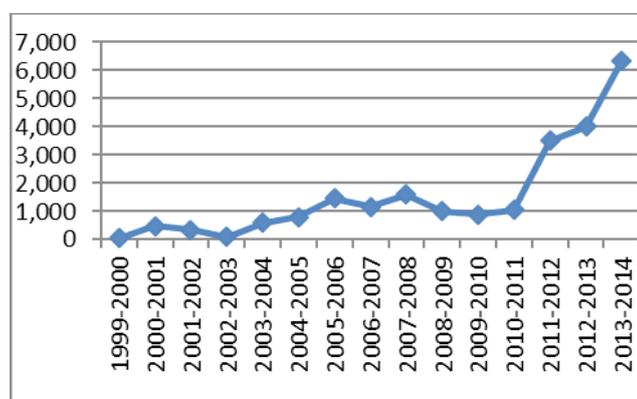


Figure 1. Changes in the number of Great Knots recorded in the Inner Gulf of Thailand, 1999–2014

A similar situation prevails in Malaysia. At Kapar Power Station, on the north-central Selangor coastline of Peninsular Malaysia, high-tide roost counts encompassing both the wintering and migration periods rose from less than 200 birds in the years 2000–2001 to over 2,000 birds annually from 2009–2012 (RSPB/BirdLife International 2005; **Figure 2**). Periodic winter surveys of the west coast of Sarawak, East Malaysia, also recorded a similar sharp increase, from 15 birds in 1986 (Edwards *et al.* 1986), to 388 in 2005–2006 (Mizutani *et al.* 2006), and at least 1800 birds in 2010–2011 (Bakewell & Wong 2014).

Admittedly, there has been wide variation in the numbers of observers and frequency of coverage in these three areas, but the increase in numbers of Great Knots is demonstrably genuine, and seems also to be reflected in opportunistic or occasional coverage from other sites along the west coast of Peninsular Malaysia. The increase from winter 2007–2008 onwards is especially striking: less than 2,000 Great Knots in that year, had risen to over 6,000 in January–February 2014 in the Thai Gulf (**Fig. 1**); while on the Selangor Coast c. 500 Great Knots in 2007–2008 rose to over 3,500 in winter 2011–2012 (**Fig. 2**).

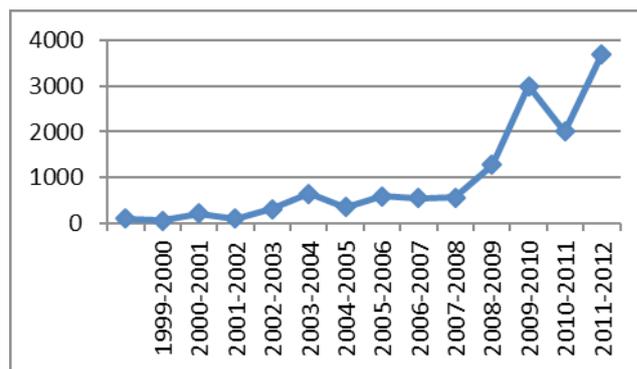


Figure 2. Changes in the number of Great Knots recorded on the north-central Selangor coast, West Malaysia, 1999–2012

What is driving this increase? Since the global population of Great Knots is declining (Conklin *et al.* 2014), the local population increases in Thailand and Malaysia are most likely due to changing non-breeding season distribution. Habitat loss elsewhere in the non-breeding range is the most likely cause of this. There are no sites elsewhere in South-East Asia known to have previously supported large numbers of Great Knots that now no longer do so. The 2000 Great Knots found in the Mekong Delta, Tien Gang province, Vietnam on 5 January 2014 (Robson 2014) is not very markedly different from the 2,500 recorded at nearby Ben Tre in December 2000 (Moores & Nguyen 2001). The overall population of Great Knots wintering in the (incompletely covered) Mekong Delta region may well be greater than these figures indicate, however (N. Moores *in litt.*). While the subsequent relocation of some of these, perhaps due to habitat loss, cannot be ruled out as having contributed to the Thai and Malay population increase, neither this nor any local redistribution of widely scattered wintering birds in either country, in favour of increased concentration at fewer sites, is sufficient to account for the observed increase, which is too great.

The most likely explanation is that flyway-level changes linked with major habitat loss are driving a change in the non-breeding season distribution of the Great Knot. Until the mid-2000s, an estimated 160,000 Great Knots staged in the Republic of Korea (ROK) portion of the Yellow Sea alone, during southwards migration, and a similar number during northwards migration (Moores 2006; Moores *et al.* 2006). Might some birds, which formerly wintered in Australia, now winter in the Thai Gulf or Malaysia instead? More than 90,000 Great Knots disappeared from the combined sites of Saemangeum, the Geum Estuary and Gomso Bay, ROK following the (2006) closure of the sea-wall during the major tidal flat reclamation at Saemangeum during 2006–

Steep upward trajectory in Great Knot numbers at sites in SE Asia cont.

2008 (Moore 2012). Reclamation of these key Yellow Sea migratory staging areas would force the birds to stage elsewhere, most likely on the Chinese coast or in SE Asia, where they might then be forced to winter should this prevent them from laying down sufficient fat to carry them to Australian wintering areas. However, there was a significant time-lag between the disappearance of the ROK birds in 2007 and the precipitous increase in Malaysia (2008 onwards) and Thailand (2010 onwards). The impact from sudden catastrophic events, such as reclamations, may take time to be fully absorbed by populations as birds either adapt their behaviour, seeking alternative feeding areas, adopting different migratory strategies; or, suffering increased mortality, decline to a lower population level. Additionally, the increase in Great Knots in Thailand and Malaysia, so striking in the context of both countries, accounts for less than 10% of the birds that have disappeared from ROK.

This is a definite possibility, albeit not yet supported by ringing recoveries or leg-flag sightings with (so far) just five re-sightings of Australian-flagged (yellow flags) Great Knots from the Thai Gulf (only two in midwinter), compared with, for example, c. 15 sightings of Chinese-flagged Great Knots (data held on file by Bird Conservation Society of Thailand and the Thai Department of National Parks, Wildlife and Plants Conservation). But such a hypothesis could not be ruled out if, for example, any supposed latitudinal shift in wintering area was occurring disproportionately among juvenile/first-winter birds undertaking their first southwards migration that had not yet reached Australia. There is also evidence to suggest that the numbers of Great Knots spending the non-breeding season in NW Australia have increased slightly in spite of the global population decrease (Conklin *et al.* 2014) and the reasons for this are unclear. Improved monitoring of wintering waders on the Thai and Malaysian coasts, and in particular annual monitoring of the proportions of first-year birds in counts would yield highly relevant additional information that might be instructive.

In Malaysia, both the north-central Selangor coast (Peninsular Malaysia, Selangor State) and Bako-Buntal Bay (East Malaysia, Sarawak State), where the largest concentrations of Great Knots in Malaysia have been recorded, are recognised as Important Bird & Biodiversity Areas (IBAs) but are currently only partially protected under different State legislations (Yeap *et al.* 2007). Malaysia joined the East Asian-Australasian Flyway Partnership (EAAFP) as a Country Partner in 2012, and the Bako-Buntal Bay and Kapar Power Station ash ponds (both located along the north-central Selangor coast) are already

designated as Flyway Sites.

The Inner Gulf of Thailand is a globally important wintering and staging area for at least 20 species of waders (Round 2007) yet, even though long recognised as an IBA (BirdLife International 2004), it remains substantially unprotected. While there is no immediate likelihood that mudflats will be lost to reclamation, urban sprawl and other land-use changes are increasingly affecting key onshore roosting habitats. However, Thailand acceded to EAAFP in 2010 and in December 2014 designated two key sites within the Inner Gulf, Khok Kham (7561 ha) and Pak Thale-Laem Phak Bia (8666ha), as Shorebird Reserve Network Sites. In the meantime, there is an urgent need to solve the paradox of this local increase in a globally declining, RDB* Vulnerable species and to determine what this might imply for the conservation of its global population.

Note: *RDB means *Red Data Book* issued by the International Union for the Conservation of Nature listing threatened species.

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Steep upward trajectory in Great Knot numbers at sites in SE Asia cont.

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Great Knot Satellite Tracking Project

On 24 March 2015, the first of eight Great Knot carrying a satellite transmitter (PTT) left Roebuck Bay, Broome, north Western Australia, for the first leg of its migration to the breeding grounds.

As of 9 April 2015, it has been joined by six more all winging their way north. Six are already on the Chinese coast, between Dongliao Dao (21 01 47N, 110 23 06E) and Hangzhou Bay (30 11 55N, 121 50 33E). The latest Great Knot to leave is 370km north of Roebuck Bay over the Timor Sea.

Three Great Knots flew directly to Zhejiang Province and are in bays 200km apart. This is a flight of 5,200km. They took about 4 days so were averaging about 54kmph. One of these birds went 200km inland when it reached the Chinese coast but then swung round and landed on the coast. This track certainly surprised us!

The most northerly bird is just south of Ningbo city (30 11 55N, 121 50 33E). It did not go there in a direct flight but stopped for eleven days 1,050km south of its present site.

One bird took a few 'days off' in Vietnam after an initial flight of 3,700km before taking a 950km 'hop' to Dongliao Dao just north of Hainan Island.

One bird is still at 80 Mile Beach but has roamed a full 150km of the beach (the beach is 220km long!).

For those of you in to the modern world, you can follow more regular, brief updates on various Facebook pages and Weibo.

Please share with your networks and let the world know of the brilliant birds we have on our doorstep here in Broome. They are 'our' birds for about 7 months of the year but we share them with many other countries in the East Asian-Australasian Flyway so let everyone know.

Due to the micro-blog in Chinese we have received lots of records of Great Knot flocks from many sites along the coast and we even have an image of a Great Knot PTT 41 in flight! How brilliant is that? I shall answer that. It's brilliant!

Note: All distances and flight times in this update are preliminary. Further statistical analysis will be done at a later stage. So all information here is approximate.

The GFN Satellite Telemetry Team

Source: <http://globalflywaynetwork.com.au/satellite-tracking->

Wader Study – published by the International Wader Study Group

The Editorial Board of the *Wader Study Group Bulletin* is excited to announce that in 2015 our journal will continue under a new name: **Wader Study**.

For more than 40 years, the *Wader Study Group Bulletin* has been an outstanding source of wader information and has fostered a sense of community among shorebird enthusiasts. Continuing the tradition, **Wader Study** will:

- publish peer-reviewed papers on global shorebird research;
- be a forum for wader-related news, advances in

study techniques, expedition reports, and debate on shorebird research and conservation;

- publish syntheses of status, trends or other articles relevant for conservation;
- publish smaller-scale count or survey data that you've amassed over the years;
- publish wader-related aspects of your MSc or PhD thesis.

Contact: editor@waderstudygroup.org

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Southward Migration Studies on West Kamchatka

Southward migration of waders has been studied on the western coast of Kamchatka Peninsula, Russia with support of the Asian Waterbird Conservation Fund and BirdsRussia using RSPB financial support. Field work was carried out on Vorovskaya River Lagoon on 18–27 July, 6–30 August, and 7–30 September 2014. The lagoon is 40 km long and 1–1.5 km wide. We could investigate only the southern part of the lagoon between Ustyevoe Village and the mouth of the river (54° 11' N, 155° 49' E). The length of the studied part is about 5 km. Our work included daily counting of mudflats during low tide, observation of visible migration with counting of birds flying past, banding and flagging, and searching for flagged waders. 56 mudflat counts of waders during low tide were conducted and 30 species of waders were recorded. The maximum number of waders – 12 thousand individuals - was counted on 6 August 2014; the average count for 56 days was 5600 individuals (**Figure 1**).

The international significance of the study area has been confirmed for eight wader species. For total population estimates we used the most recent publication (Conklin *et al.* 2014).

The Mongolian (Lesser Sand) Plover maximum count was made on 29 August 2014. It reached 1297 individuals or 10.0% of total population. Criterion of 1% level for this species was exceeded during 24 counts, and 0.25% level was additionally exceeded during 22 counts.

Maximum number of Whimbrels was counted on 19 August 2014 and reached 1287 individuals or 2.3% of total population estimate. 1% level was exceeded once when more than a thousand Whimbrels came from tundra to mudflats near our camp for roosting. Additionally the 0.25% level was exceeded during 12 days.

The Red-necked Stint maximum count was made on 16 August 2014 when 4280 individuals or 1.4% of the total population estimate were feeding on mudflats. Criterion of 1% was exceeded during 4 counts, and 0.25% was exceeded during 30 additional days.

Maximum number of Dunlins on mudflats was recorded on 9 August 2014 when the count reached 9697 individuals or 1.0% of total population estimate. Criterion of 1% was exceeded once, and the 0.25% level was exceeded during 35 counts.

The Black-tailed Godwit maximum count was made during migration of adult birds. On 20 July 2014 we counted 1162 individuals or 0.8% of total population estimate. The 0.25% level was exceeded during 14 days.

Maximum number of Great Knots was seen on 24 July 2014. It was 2247 adult birds or 0.8% of total population estimate. The 0.25% level was exceeded during 3 days of July. Migration of juvenile Great Knots was not so intensive.

Maximum number of Ruddy Turnstones was seen on 11 August 2014 and reached 183 individuals – 0.6% of total population estimate. Criterion of 0.25% was exceeded during 4 days.

Additional observation of visible migration was conducted with counting of species which mainly do not stop on mudflats of studied area. Most significant results on visible migration were recorded for Whimbrel. In total at least 32 thousand Whimbrels migrated nearby our observation point. Extremely intensive migration was observed in the afternoon of 25 August 2014 when 28 thousand Whimbrels were flying past our study area during 5 hours. This number

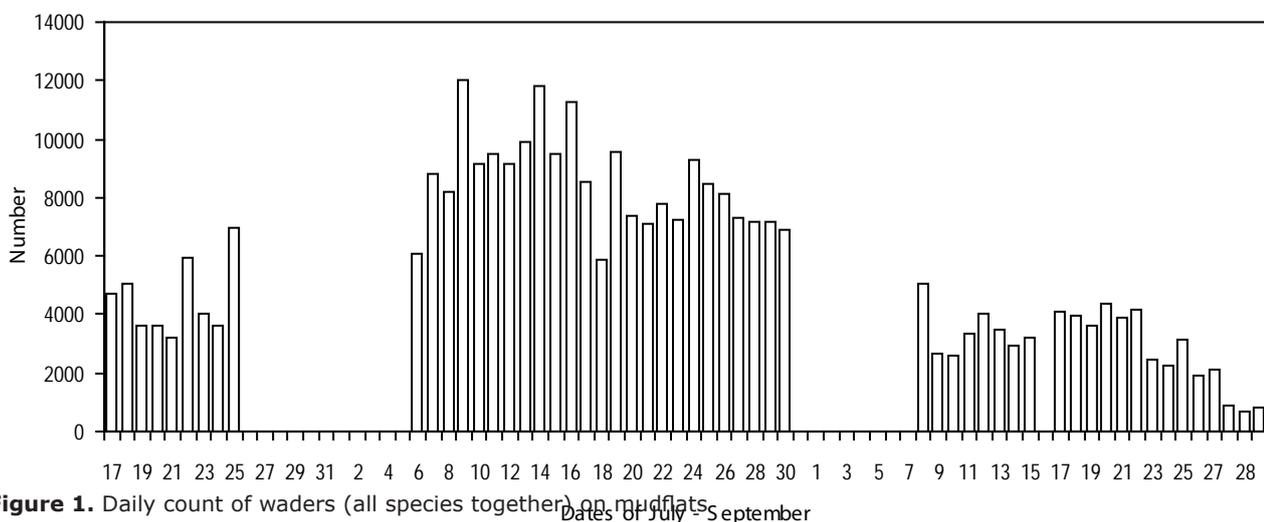


Figure 1. Daily count of waders (all species together) on mudflats. Dates of July–September

Southward Migration Studies on West Kamchatka cont.

contains 51% of the estimated total population migrating on the East Asian–Australasian Flyway. Maximum flock size was in excess of a thousand individuals. Also Grey-Tailed Tattler, Common Greenshank, Terek Sandpiper, Wood Sandpiper, Common Sandpiper and Pacific Golden Plover were common among species which passed the study area, mainly without stopping.

From 8 August till 28 September, 3060 waders were banded and flagged, including 1922 Dunlins, 915 Red-necked Stints, 92 Mongolian Plovers, 35 Red Knots, 32 Western Sandpipers, 17 Black-tailed Godwits, 14 Grey-tailed Tattlers, 9 Great Knots, 6 Spoon-billed Sandpipers, 4 Ruddy Turnstones, 3 Common Sandpipers, 3 Long-toed Stints, 3 Common Snipes, 2 Temminck's Stints, 1 Grey Plover, 1 Terek Sandpiper, and 1 Broad-billed Sandpiper.

During our investigations special attention has been given to the Spoon-billed Sandpiper. We could observe Spoon-billed Sandpipers feeding on mudflats from 11 August till 21 September 2014. During August feeding birds were recorded almost every day. During 9 – 30 September we recorded Spoon-billed Sandpipers on only four days. Also, seven Spoon-billed Sandpipers were caught during our mist-netting. All birds were juvenile, 6 birds received yellow and black flags (combination is consolidated for Kamchatka). One more bird caught on 24 August 2014 was banded and flagged on Chukotka.

The information on 21 records of flagged and banded waders has been received. These included yellow, orange and pale blue single flags; blue and white (two colour) single flags; and also black and white flag combination. Some flags have individual codes.

In the future it could be interesting to conduct additional shorebird counting and banding at the same point during July. Southward migration in July (migration of adult birds) is very interesting for observing flagged birds as well as catching adult birds for flagging. The international significance of this place has been confirmed for two wader species (Great Knot and Black-tailed Godwit) during adult migration in July. Also, we plan to investigate northward migration of waterfowl and shorebirds in the study area as we received information from the local community that many waders stop there in late May.

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Yuri Gerasimov, Ivan Tiunov, Alexander Matsyna, Hiroshi Tomida, Rimma Bukhalova

Key research issues for shorebird conservation in the Yellow Sea region

Ning Hua, Kun Tan, Ying Chen and Zhijun Ma recently published a comprehensive paper on **Key research issues concerning the conservation of migratory shorebirds in the Yellow Sea region** in *Bird Conservation International* (2015) **25**: 38–52. Extracts follow:

SUMMARY

The widespread decline of migratory shorebirds in the East Asian–Australasian Flyway (EAAF) is one of the greatest crises for migrating birds. Among the migratory species with known population trends, 88% (22 of 25 species) show population declines, and seven have been listed as Threatened or Near Threatened in the IUCN Red List. The decline of migratory shorebirds is related to the deterioration of stopping sites (including staging and stopping sites) in the Yellow Sea, including loss of intertidal wetlands, spread of invasive smooth cordgrass *Spartina alterniflora* on intertidal flats, an increase in pollution, and an increase in human disturbance. We review research concerning shorebird migration through the Yellow Sea and highlight key research activities

required for the conservation of shorebirds in the region. These activities include: confirming the population consequences of loss of stopping sites, estimating migration timing and numbers of shorebirds at stopping sites, determining the differing abilities of species to use alternative habitats, understanding intra- and interspecific differences in the use of stopping sites, maintaining and expanding surveys on shorebirds and habitat condition, and identifying threats to shorebirds beyond habitat loss by reclamation. The information generated by these research activities is required for the design and selection of effective conservation actions to reverse the decline in shorebird populations.

This paper identifies six key issues requiring further research, illustrated by brief extracts below:

1) *Understanding the population consequences of loss of stopping sites*

Comparing population survival rates at different life history stages is an effective method for

Key research issues - shorebird conservation in the Yellow Sea region cont.

elucidating the population consequences of loss of stopping sites. ... Moreover, the combination of survival modelling with monitoring the age structure of populations (e.g. the ratio of first-year birds to total birds in non-breeding grounds) may provide the first indications of change in populations, which will be helpful in detecting the effects of loss of stopping sites on reproductive success and/or population dynamics of migratory shorebirds (Minton *et al.* 2005, Robinson *et al.* 2005, Rogers *et al.* 2005). Most shorebird species have differences in moult between age classes (e.g. adult vs. first-year birds); this makes it feasible to record the age ratio in flocks through visual scans (Lemke *et al.* 2012).

2) *Estimating migration timing and numbers of shorebirds at stopping sites*

Understanding the importance of a stopping site depends on accurate estimates of the numbers of birds that use the site. ... Peak counts will underestimate the number of birds by missing either the early departures or the late arrivals. Such underestimation is common at temporary stop-over sites where the migration period of the population is much longer than the length of stay of individual birds. At Chongming Dongtan in the southern Yellow Sea, for example, the migration period of Great Knots lasts for one month while the length of stay of individual birds is shorter than three days (Ma *et al.* 2013). As a consequence, many more birds pass through Chongming Dongtan than are detected by peak counts during migration. ... Length of stay of individual birds can also be estimated by the resighting of marked individuals in the field and the use of a capture-recapture model (Schaub *et al.* 2001, Verkuil *et al.* 2010, Masero *et al.* 2011) and, when modelled together with regular count data, researchers can estimate the total number of birds passing through (e.g. Gillings *et al.* 2009).

3) *Determining different abilities of species to use alternative habitats*

Many studies have indicated that artificial wetlands provide both foraging and roosting habitats for various shorebirds (Masero *et al.* 2000, Barter *et al.* 2003, Ma *et al.* 2004, Moores 2006) and may mitigate the adverse effects of loss of intertidal wetlands. Effective management plays a critical role in enhancing the habitat quality of artificial wetlands for shorebirds (Elphick 1996, Erwin 2002, Ma *et al.* 2010). Unfortunately, artificial wetlands cannot completely substitute for natural intertidal wetlands as shorebird habitats (Ma *et al.* 2004). Specialists that rely exclusively on intertidal wetlands as foraging habitats are more likely to suffer from the loss of intertidal wetlands than habitat generalists. ... Satellite tracking is an effective method to detect flexibility in habitat

use (or the shift of stopping sites) after the loss of intertidal habitats. Moreover, population monitoring will also help researchers identify those forces that drive the evolution of migration routes and strategies.

4) *Understanding intra- and interspecific differences in the use of stopping sites*

Stopping sites can be classified as staging sites, where birds deposit large amounts of fuel, or as stop-over sites, where birds deposit smaller amounts of fuel or do not refuel at all (Warnock 2010). As critical refuelling sites for migratory birds, staging sites are a conservation priority. Although field surveys on the species and numbers of individuals at different stopping sites have provided valuable data for illustrating the importance of the Yellow Sea for shorebirds (Barter 2002, Chen 2006, Moores 2006), the functions of different stopping sites for shorebirds are still largely unexplored. ... There are also interspecific differences in the spatial distribution of refuelling sites for shorebirds in the Yellow Sea. Although species that migrate via "long-distance jumps" (such as Great Knots and Red Knots; Piersma 1987) are likely to use only the northern Yellow Sea for their refuelling sites during northward migration, those species that migrate via "short-distance hops and skips" may require more refuelling sites in the southern and middle Yellow Sea. Moreover, habitat and food conditions affect the use of refuelling sites.

5) *Maintaining and expanding surveys on shorebirds and their habitats*

In order for conservation to be effective, research on demography and the annual cycle is essential to demonstrate where and when the population occurs in the flyway during the year. ... In order to explain the population changes of shorebirds at stopping sites, one of the key issues is to track habitat changes. The rapid development of remote sensing techniques provides an effective tool for understanding land use and land cover changes over extensive areas and in the long-term (e.g. Murray *et al.* 2014). Monitoring habitat condition involves both abiotic and biotic factors, e.g. changes in the tidal area caused by reclamation, sedimentation, and erosion, vegetation area and composition (including the spread of invasive plants), macrobenthos that provide food for shorebirds, and pollutants at stopping sites (see below). All these might affect shorebirds directly or indirectly.

6) *Identifying threats to shorebirds beyond habitat loss by reclamation*

Pollution is a potentially serious, but overlooked, threat to shorebirds in the Yellow Sea. Many studies have indicated the adverse effects of organic and non-organic pollutants and bioaccumulation of

Key research issues - shorebird conservation in the Yellow Sea region cont.

pollutants amplifies the adverse effects on long-lived birds (Rowe 2008). ... Along China's coasts, the exotic smooth cordgrass, which originated on the east coast of America and which was intentionally introduced into China in 1979, has spread rapidly through the intertidal wetlands over the past three decades and has occupied 25,000 ha in the Yellow Sea region (2007 data; Zuo *et al.* 2009). Because cordgrass stands are dense, they hinder shorebird movements and the spread of cordgrass has therefore caused a net loss of shorebird habitat (Gan *et al.* 2009). ... Another threat is the increase in human activity on the coast, which disturbs the foraging and

roosting of shorebirds and thus decreases their fuel deposition efficiency at refuelling sites. ... Yet another threat to shorebirds that use the Yellow Sea region for refuelling during migration is the loss of tidal flats driven by reduced sedimentation from major rivers because of dams and barrages (CCICED 2011, Murray *et al.* 2014).

Ning Hua, Kun Tan, Ying Chen and Zhijun Ma

Source: *Bird Conservation International* (2015) **25**: 38–52. © BirdLife International, 2015 doi:10.1017/S0959270914000380

Yellow Sea tidal flats - ecosystem status & anthropogenic threats

Nicholas J. Murray, Zhijun Ma and Richard A. Fuller recently published *Tidal flats of the Yellow Sea: A review of ecosystem status and anthropogenic threats* in *Austral Ecology*. Extracts follow:

DISCUSSION

Severe observed declines in the extent of the Yellow Sea tidal flat ecosystem over the past 50 years, as well as long-term declines in sediment delivery, considered a key abiotic process, enable its assessment as endangered (under International Union for Conservation of Nature [IUCN] Red List of Ecosystems criteria A1, C1, D1). Owing to the difficulty in finding useful, long-term datasets for biotic and abiotic factors across the region, further work to identify data sources would improve confidence in this assessment.

The current rate of loss, the vast scale of planned development activities and the high incidence of degrading processes suggest that the future for the Yellow Sea tidal flat ecosystem is grim. With coastal urbanization forecast to result in the formation of one of the largest urban areas on earth by 2030 (Seto *et al.* 2012), ongoing declines in the extent and condition of tidal flats in the Yellow Sea seem inevitable. Reclamation activities, particularly in China and South Korea, will continue to occur as a result of ongoing development of coastal regions, the increasing scarcity of vacant coastal land and the relatively low cost of developing the coastline (Wang *et al.* 2010b; Murray *et al.* 2014). The coastline of North Korea appears to have experienced relatively little coastal development in comparison with South Korea and China, and at this stage, it may harbour some of the few areas of intact tidal flats remaining in the Yellow Sea (Murray *et al.* 2014). However, damming of the Yellow and Yangtze Rivers has significantly reduced the amount of sediment entering the Yellow Sea, and large-scale changes of the natural coastline

are interrupting the natural coastal processes that govern this dynamic ecosystem (Yang *et al.* 2006; Wang *et al.* 2010a).

The final status assessment of this ecosystem as endangered relied on large-scale remote sensing data and historical topographic maps, and long-term data from river monitoring stations. However, to improve this assessment, a deeper understanding of the sources and trends of biotic and abiotic degradation is necessary. Information regarding these would reduce uncertainty in the listings under criteria C and D, and would allow the necessary work to be completed to quantitatively assess risk under criterion E. Thus, several research priorities remain including (i) achieving higher temporal resolution of tidal flat mapping, (ii) further consolidating data on the sources and ecosystem impacts of biotic and abiotic degradation, (iii) improving our understanding of the effects of sediment declines and coastal reclamation on the tidal flat system, and (iv) improving our knowledge of the status of tidal flats in North Korea.

The application of the IUCN Red List of Ecosystems criteria on the tidal flats of the Yellow Sea highlighted several challenges in the assessment of ecosystem status. Firstly, contemporary satellite imagery, the principal method for monitoring change of habitats at large (regional) scales, is only available from the early 1970s, necessitating comparisons with historical data such as topographic maps to achieve a suitably long-term assessment of ecosystem change (Murray *et al.* 2014). Until 2022, the point at which 50 years of standardized earth observation data will be available via Landsat, there will be no standard satellite data source for mapping change of ecosystems over regional scales (>100 km) for the 50-year time frame required. Nevertheless, cautious data processing and analysis allowed this long-term assessment

Yellow Sea tidal flats - ecosystem status & anthropogenic threats cont.

(Murray *et al.* 2014). Secondly, the boundary of the ecosystem, which we defined as within the Yellow Sea marine ecoregion, was necessarily a somewhat subjective choice. Tidal flats exist for more than 600 km to the east around the southern coastline of South Korea as well as the entire China coastline and throughout South-east Asia (Healy *et al.* 2002). It may have been possible to assess tidal flats in several subgeographic units, such as 'South-west South Korean coastline' and 'Bohai Sea', but we chose to assess on the Yellow Sea marine ecoregion because the ecosystem processes that govern the system are likely to apply at the regional scale and because it is considered an ecoregion due to endemism and distinctness from adjacent regions (Spalding *et al.* 2007; IUCN 2012a).

There is an urgent need to arrest the decline of the Yellow Sea tidal flat ecosystem. Improved coastal planning and management at regional and national levels to reduce aggressive coastal reclamation is a critical first step, as well as reducing deleterious influences such as pollution, overfishing, harmful algal blooms and eutrophication (MacKinnon *et al.* 2012). As an additional protective measure, protected areas should be expanded to ensure tidal flats are captured within the protected area network, as this ecosystem is often omitted from both terrestrial and marine conservation planning frameworks in the region. Lastly, management of protected areas must be improved to combat illegal development, resource use and extraction activities.

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Ageing Australian Oystercatchers

A Sooty Oystercatcher originally trapped and banded in Victoria as a 2+ years-old bird on 8 July 1989 was re-trapped in May 2000 and again on 29 January 2015. Its metal band (number 100-96855) was so worn that it was replaced with a new band.

This bird is now a minimum of 27 years old and is by far the oldest Victorian Wader Study Group Sooty (previously up to 23 years) and probably the oldest for Australia overall.

It is not quite as old as our oldest Pied Oystercatcher. We have a 29-year-old Pied which is still going strong at Inverloch, Victoria, as part of a breeding pair, and is still occasionally seen by Steve Johnstone.

Clive Minton

New Spoon-billed Sandpiper site discovered in Bangladesh

Along with monthly monitoring of shorebirds on Sonadia Island, the Bangladesh Spoon-billed Sandpiper Conservation Project (BSCP) conducts surveys in previously unsurveyed areas such as the Sundarbans (2012). As part of the new area search, BSCP carried out a detailed survey around **Sandwip, Chittagong** between 3 and 11 February 2015. A total of **35,000 shorebirds** of 24 species were counted including **21 Spoon-billed Sandpipers** with 2 colour-flagged birds (black-yellow; lime-green). The black-yellow bird was flagged in August 2014 in western Kamchatka Peninsula in Russia.

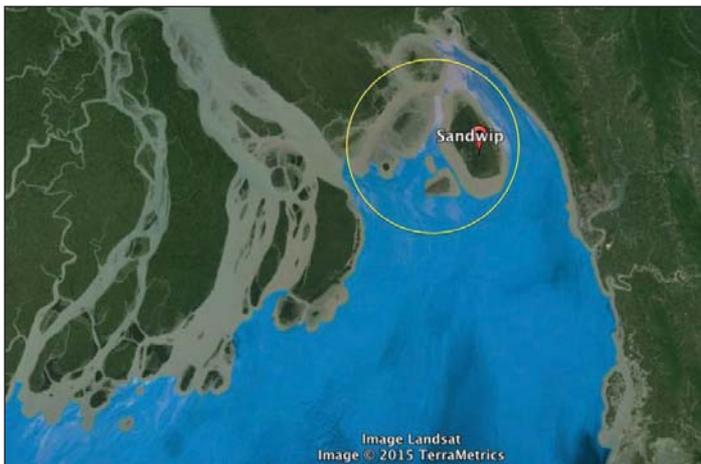


Figure 1: Several important sites for shorebirds were found within the yellow circle.



Survey boat (Photo: BSCP/Nazim Uddin Prince)



Surveyors in action (Photo: BSCP/Nazim Uddin Prince)



Spoon-billed Sandpipers (Photo: BSCP/Nazim Uddin Prince)



Large number of shorebirds (Photo: BSCP/Nazim Uddin Prince)

Sites	Total no. of shorebirds	No. of shorebird species	No. of SBS	No. of flagged SBS	Area Covered
Site 1	14,000	11	6	1	70%
Site 2	5,000	10	-	-	90%
Site 3	16,000	15	15	1	65%
Total	35,000	24	21	2	-

Survey participants: **Md. Foyсал, M. Abdullah Abu Diyan, Nazim Uddin Prince and team.**

Spoon-billed Sandpiper and Tiaozini Sandbanks, China

We previously reported about the importance of the Rudong–Dongtai mudflats. Now we know that the northern part of this huge mudflat area, the Tiaozini sandbanks, is the most critical for the species. A new record of over 220 birds were recorded there in September. However, imminent threats of reclamation are posed to this important site. (The Tiaozini mudflats are currently included in a huge 5-year reclamation plan with the development of Deep Sea Port facilities converting ca. 60,000ha of mudflats for industrial and agricultural development. Regardless of this development prospect SBS in China along with international support of the SBS TF and other global organisations such as WWT and WWF is launching a campaign aiming to halt or delay the reclamation plans.)

Currently we are working with all international and our Chinese partners to halt this project. This is a very crucial moment; a turning point in the conservation of the species. Signals from high

levels within the Chinese administration indicate that the project might be suspended. We cannot verify this news at the moment, but it raises our hopes in a desperate, almost impossible situation. Likewise, the latest news from Sonadia in Bangladesh is promising, although the Deep Sea Port project idea has not been totally abandoned yet. The efforts to designate the Gulf of Mottama in Myanmar as a Ramsar site have progressed with areas belonging to the Mon State about to be designated first. It seems as though the tide is turning for the benefit of the Spoon-billed Sandpiper and many other waders. Let's make the best use of this positive trend, build on our successes and strengthen our efforts to save all breeding, stop-over and wintering sites.

Dr Christoph Zockler, Coordinator Spoon-billed Sandpiper Taskforce

Source: Spoon-billed Sandpiper Taskforce News Bulletin No. 13 February 2015

Proposed Grey Plover satellite tracking program

The Grey Plover is a special and unusual migratory shorebird that we know very little about. It is the largest plover we have in Australia. We know that they migrate an amazing 12,000km to breed in northern Siberia and Alaska during the northern summer and return to spend our summer in Australia. The Australian coastline hosts around 12,000 Grey Plovers from September to March each year. However nearly all the population in Australia is female which makes their migration even more mysterious. Why do females migrate to Australia, but males apparently don't?

We plan to follow at least three Grey Plovers using satellite tracking technology in the 2015/16 migratory season. Key aims of this program are to identify migratory routes, stopover sites and breeding areas. Further work will be needed to identify if these are regular habitats/routes used by the birds. Most migratory shorebirds leave Australia in March and April, travel in big numbers, and use well-known routes and stop-over locations such as the Yellow Sea in China. But not the Grey Plover it seems. We believe they travel in smaller numbers, but the information from bird-banding studies and leg-flag sightings is limited. We have no knowledge of where Grey Plover breed or any stopover sites for refuelling north of the Yellow Sea. Thus we cannot assess the threats they face when they move north past the Yellow Sea.

Grey Plover numbers in Australia are declining, so we need to identify these threats to their migration quickly. Their continued survival depends on

these unknown but critical sites, but we cannot assess or improve the conservation status of these sites until they have been located.

With the arrival of light-weight solar-powered satellite trackers we are now able to track the journey of the Grey Plover. Satellite tracking allows us to build knowledge and data in real time that will help inform what can be done to assist their survival in the future.

And at the same time satellite tracking allows everyone to follow the migration routes of the Grey Plovers from the comfort of their own home! Tracing their individual journeys on a global map on the web means we can all see for ourselves the impact of this research, the route these birds take and where their breeding grounds are located, all in real time.

We aim to get the project started as soon as Grey Plovers return to Australia in late 2015 and will follow their journeys throughout the 2016 migration and breeding season. Although we are planning to attach satellite trackers to at least three birds, if the funds allow it, we will increase this to up to five birds.

If you would like to support this project, please go to: <http://www.pozible.com/project/194554>

Diana Gibson

Head of Communications, BirdLife Australia and the **Shorebirds 2020 team**

Report on the 8th Meeting of East Asian–Australasian Flyway Partnership

Kushiro, Japan 16-21 January 2015

Participating AWSG Committee members:

Alison Russell-French (Representing AWSG and Member of the EAAFP Management Committee), Ken Gosbell (Chair of the Shorebird Working Group), Phil Straw (Member of the Communication Education Participation & Awareness (CEPA) Working Group), and Doug Watkins (representing both AWSG and Wetlands International and Chair of the Yellow Sea Task Force and the Monitoring Working Group)

Commemorating 21 Years of the East Asian–Australasian Flyway (EAAF)

The 8th Meeting of the Partners (MoP) of the EAAF Partnership was held in Kushiro, Japan to commemorate 21 years of the EAAF. The Flyway program was established in December 1994 as an initiative fostered from the Japan-Australia Migratory Bird Agreement. The program evolved into the EAAF Partnership in 2002 as an initiative under the World Summit on Sustainable Development and the Ramsar Convention. The EAAF Partnership (EAAFP) now has 34 Partners.



People at MoP8 who were in Kushiro at the formation of the Flyway Initiative in 1994 - Simba Chan, Dr Taej Mundkur, Prof. Lee Woo Shin, Doug Watkins, Masayuki Kurechi, Minoru Kashiwagi

New Partners

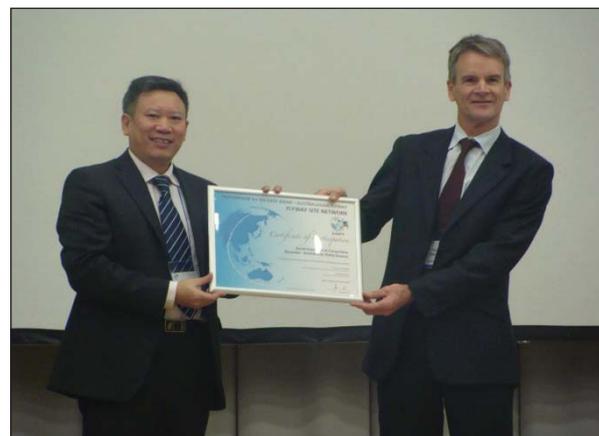
Four new Partners were welcomed at the Opening Ceremony - Myanmar, Vietnam, the Convention on Biological Diversity and the Asian Centre for Biodiversity (ACB).

New Flyway Sites

Government Partners were presented with Flyway Site Certificates for 9 new sites– Mongolia (1), Japan (2), Myanmar (3), Australia (1) and Thailand (2).



Presentation of the Partner Certificate for the Asian Centre for Biodiversity by Chair Prof. Lei Guangchun to Dr Sheila Vergara



Presentation of the Flyway Site Certificate for the Southeast Gulf of Carpentaria, Australia by Chair Prof. Lei Guangchun to Paul O'Neill

Key Decisions/Outcomes Arising from MoP8

Changes in Chairing Arrangements for EAAFP Working Groups and Task Forces

There were a number of decisions relating to changes in Chairs of Working Groups (WG) and Task Forces (TF), notably:

- Shorebird WG – Dr Rick Lanctot (USA) to replace Mr Ken Gosbell (AWSG)
- Yellow Sea TF – Mr Bruce McKinlay (NZ) to replace Mr Doug Watkins (Wetlands International)
- Seabird WG – Mr Rob Kaler (USA) to replace Mr Paul O'Neill (Australia)
- Communication Education Participation and Awareness (CEPA) WG – Dr Sandra Hails to replace Dr Lew Young (Ramsar)

The significant contribution and work of all retiring Chairs was acknowledged by the MoP.

Report on the 8th Meeting of EAAF Partnership cont.

Key Recommendations Endorsed by the MoP

The following key recommendations were endorsed:

- **Monitoring the management and status of Flyway Network Sites** – a draft template was considered and will be provided to National Government Partners following some fine tuning. The template will enable site managers to report on the status of their sites in an easy-to-use format. This information will enable assessment on how the Partnership is progressing with its site-based objectives (management, CEPA and monitoring). It will align with the Ramsar site reporting process.
- **South East Asian Network** – the MoP agreed to the proposal for establishing a network for Partners in the South East Asian region, noting that this region is not well understood for migratory shorebirds. Membership of the group will include Partners in South East Asia, the ASEAN Centre for Biodiversity and possible other members such as Bangladesh.
- **Formation of an Eastern Curlew Task Force** - noting that the Eastern Curlew is in rapid decline with a 67% drop in population numbers over 20 years, the MoP supported the formation of an Eastern Curlew Task Force with the Chair to be Dr Mark Carey (Australia). A plan of action will be submitted to MoP9 for endorsement.
- **Proposed Situation Analysis on Hunting and Illegal Killing of Migratory Waterbirds** – recognizing that the impacts of hunting and illegal killing of migratory waterbirds are not well understood, the MoP endorsed a proposal for an assessment of hunting and illegal killing of migratory waterbirds as a preparatory step to address this issue. The assessment would be brought to MoP9. The situation analysis will build on the work being done by the University of Queensland and BirdLife International with input by Wetlands International relating to work done on hunting in Indonesia.
- **Definition of migratory waterbirds under the EAAF** – in response to issues raised by Japan and BirdLife International (specifically Mr Simba Chan, coordinator of the Crane Working Group) the MoP agreed to formation of a Task Force to look at this issue and that membership should also include the Convention on Migratory Species (as the body whose definition is currently used) and Australia (in view of possible implications for the legislative base underpinning Australian legislation). The Task Force will report to MoP9.

- **Establishment of an EAAF Finance Committee** – Korea, as the host of the Secretariat, raised concerns about the need to engage more Partners in providing support to the Partnership and support for the Secretariat. In response to concerns about funding for the Partnership, the MoP endorsed establishment of a Committee that is tasked to develop a strategy to address the goal of achieving a more sustainable and equitable future for the EAAF. It will also prepare a summary of all the contributions associated with operations under the EAAF to indicate the level of investment Partners are contributing to the Partnership, to provide a more realistic picture of overall expenditure in the Partnership. A draft report is to be prepared by the Committee and circulated to Partners prior to MoP9.
- **An Independent Review of the EAAF & update of the Implementation Strategy** – the MoP endorsed an independent review to be conducted of the structure and operation of the Partnership with terms of reference to be developed by mid-March 2015 and circulated to Partners for comment. The review will also focus on the current Implementation Strategy and a new implementation strategy as well as looking at implementation mechanisms (e.g. working groups, task forces and work planning).
- Adoption of a specific EAAF work program for the Yellow Sea Ecoregion (see below).
- **Consolidation of EAAF 2015 Work Plan** - a full draft of the consolidated EAAF 2015 Work Plan will be made available on the EAAF website for comments from Partners prior to finalisation.

Report on Shorebird Working Group Outcomes

Some of the issues addressed by the Group at MoP8 included:

- **Developing a collaborative work program for the Yellow Sea Ecoregion.** The SWG supported the establishment of 5 'reference sites' in the Yellow Sea ecoregion and undertook to collaborate with the lead Partners in advising on the delivery of key elements such as: (i) improving understanding of shorebird use of the Yellow Sea in general and the reference sites in particular; (ii) monitoring shorebirds and habitats; and (iii) CEPA activities.
- **Strategies for strengthening shorebird monitoring and updating population estimates.**

Report on the 8th Meeting of EAAF Partnership cont.

The need to improve the quality and accessibility of population data was recognised. To support flyway knowledge the AWSG/BirdLife Australia has a major role in reviewing and updating population information to include in the Waterbird Population Estimates (WPE6) being prepared by Wetlands International in 2015.

- **Support for a proposal by the Australian government to establish a Task Force for the Eastern Curlew.**

The AWSG will offer its expertise on the Task Force and work with the Australian Government in the preparation of an Eastern Curlew Action Plan.

- Using the Priority Species Report to identify knowledge gaps for high priority species.
- Using the data for important sites identified in the Priority Species Report to identify potential Flyway Network Sites.
- The Group will work closely with the Arctic Migratory Bird Initiative (AMBI) to develop appropriate plans for the EAAF.

Report on Yellow Sea Task Force Outcomes

The Yellow Sea Task Force met jointly with the Shorebird Working Group in a two-hour plenary session.

The key outcome was the adoption by the MoP of a specific work program for the Yellow Sea Ecoregion. This is the first geographically focused work program to be developed by the Partnership.

Key commitments for site-based activities include; Governments of China and South Korea, BirdLife International, Pukorokoro Miranda Naturalists' Trust, Global Flyway Network, Wetlands International, Spoon-billed Sandpiper Task Force and Incheon Task Force. Site-based activities will be implemented in partnership with local agencies and organisations. Activities will be focused at Geum Estuary, Yalu Jiang National Nature Reserve, the Luannan Coast and the Jiangsu coast. Pukorokoro Miranda Naturalists' Trust will also conduct waterbird surveys of the west coast of North Korea in a partnership with the Nature Conservation Union of Korea. It is anticipated that additional commitments by other Partners and organisations will expand the list of sites included in the work program.

The development of this work program was supported by WWF Hong Kong as part of its response to the "Prioritization of Migratory Shorebirds for Conservation Action in the EAAF" project.

Report on Community Education Participation & Awareness (CEPA) Working Group Outcomes

A range of CEPA related activities and outcomes were reported on at the MoP by Partners including the NZ "Year of the Godwit" which will be part of the 40th anniversary celebrations of the Pukorokoro Miranda Naturalists' Trust; the Migratory Bird Festival which will be conducted by China, Mongolia and NZ; and a number of World Migratory Bird Day celebrations.

Lew Young, Chair of the CEPA Working Group, raised the need for reporting on Flyway Network Sites to alert to actual or possible threats to sites. He also emphasized the importance of clear and simple guidelines for site managers to manage their sites and report regularly on the status of their sites. He proposed a template with a list of indicator questions for site managers to report on and this was subsequently endorsed by the MoP as one of its key outcomes.

Report on the Seabird Working Group

The Seabird Working Group will focus on the following three main tasks:

- Putting information into the Global Seabird Register (recording information on the highest priority seabird species);
- Investigating Tern species as a core seabird group in the Flyway with coastal breeding areas; a report on this will go to MoP9;
- Nomination of sites to the next MoP with two possible sites in Australia already under consideration as well as one site that the EAAFP Secretariat is working on with a national Partner.

Paul O'Neill stood down as Chair of the Seabird Working Group and the new Chair is Rob Kaler from the USA with Coordinators Yu-Yat Tung (Hong Kong Birdwatching Group) and Dr Mark Carey (Australia).

Presentations to the MoP

A number of valuable presentations on matters relating to the Partnership were made and these can be found on the EAAFP website.

<http://www.eaaflyway.net/wordpress/new/thepartnership/partners/meetingofpartners/mop8/EAAFP-MoP8-Agenda-Documents-version4.pdf>

Field Trip

A field trip to the Tancho Sanctuary in the Kushiro-Shitsugen to view Red-crowned Cranes and to the Akkeshi-ko Lake to see both Steller's Sea Eagle and the White-tailed Eagle was conducted on

Report on the 8th Meeting of EAAF Partnership cont.

18th January. Recovery efforts involving feeding the Cranes in winter have been undertaken and the Red-crowned Crane population now numbers 1200.



Left: Telling the Red-crowned Crane story
Above: Red-crowned Cranes at a feeding point

Alison Russell-French

Chair, AWSG and representing AWSG as a Partner at the MoP

Shorebird Working Group – EAAF Partnership

Under the former Asia-Pacific Migratory Waterbird Conservation Strategies (1996 – 2000; 2001 – 2006), the Shorebird Working Group was established to implement the Shorebird Action Plans. This was effective in facilitating the collaboration of researchers, site managers and governments within the Flyway. A Shorebird Site Network of 48 sites was established and coordinated by a Flyway Officer. These Network sites now form a key component of the Partnership Flyway Site Network.

The Shorebird Working Group aims to promote, facilitate and coordinate shorebird conservation, management, education and research activities within the EAAF and to improve communication between shorebird specialists and managers in the flyway.

Dr Richard Lanctot, the Alaska Regional Shorebird Coordinator for the US Fish and Wildlife Service, is the new chair of the Shorebird Working Group.



Based in Anchorage, Alaska, he has studied the breeding ecology of shorebirds in Arctic Alaska since 1991 and has investigated a variety of research and management questions on shorebirds at migration and wintering areas throughout the Western Hemisphere and in parts of China and Taiwan. He is the full-time staff member of the Alaska Shorebird Group, is the Science Coordinator for the Arctic Shorebird Demographics Network, a founding member of the Conservation of Flora and Fauna's Arctic Migratory Bird Initiative, and is a principal organizer for the Western Hemisphere Shorebird Group.

Richard Lanctot, PhD

Region 7 Shorebird Coordinator, U.S. Fish and Wildlife Service
1011 East Tudor Road, MS 201, Anchorage, Alaska 99503
Tel: 907-786-3609
Fax: 907-786-3641
E-mail: richard_lanctot@fws.gov

Global Database of Active Shorebird Projects

As a part of the fundraising efforts of World Shorebirds Day, a global database is needed about the running or planned shorebird-related conservation or research projects. For this we are asking for inputs from anyone who knows details about shorebird projects of ANY scale! Please use the link below for filling out the Google form.

<http://worldshorebirdsday.wordpress.com/2015/01/04/global-list-of-active-shorebird-project-database/>

Thanks
Gyorgy Szimuly
Milton Keynes, UK

New E-mail List Serve for the EAAF Shorebird Working Group

To promote better communication among people interested in shorebirds within the East Asian-Australasian Flyway (EAAF), we have worked with the United States Fish and Wildlife Service IT department to create a new e-mail list serve. To enroll, simply go to the following website and register (<https://www.fws.gov/lists/listinfo/eaafswg>). It will only take a minute. Being part of this list serve will allow anyone to post and receive news related to shorebirds within the EAAF.

We have similar list serves for people working on shorebirds in Alaska (<https://www.fws.gov/lists/listinfo/ak.shorebird>) and the Western Hemisphere (<https://www.fws.gov/lists/listinfo/whsg>).

Please feel free to sign up for these too if you want news about other parts of the world. The EAAF Shorebird Working Group e-mail list serve will help us all to better communicate information related to new developments, publications, etc. Should you find that your enrollment is unsatisfactory, it is easy to unsubscribe (this information is also on the website address above). The EAAF Partnership also provides information on shorebirds in their website (<http://www.eaaflyway.net/our-activities/working-groups/shorebirds-working-group/>). We encourage all to become or remain active in the conservation of shorebirds in the EAAF – the time is now!

Rick Lanctot

Chair, EAAF Shorebird Working Group

Pukorokoro Miranda Naturalists' Trust celebrates Year of the Godwit 2015

Celebrating the amazing journey of NZ migratory birds, this year the [Pukorokoro Miranda Naturalists' Trust](#) is commemorating its 40th anniversary, as **Year of the Godwit 2015**. From the 18th March among events being planned is a series of free public lectures by eminent international experts on the precarious future of these fascinating shorebirds.

Working in North Korea is just the latest step for a small group concerned about the future of New Zealand's migratory shorebirds. Pukorokoro Miranda Naturalists' Trust has signed an agreement with officials in Pyongyang to investigate shorebird sites on the coast of North Korea.

'The idea is to work with North Korean colleagues to survey coastal sites and count birds staging there during migration,' said Pukorokoro Miranda Shorebird Centre Manager Keith Woodley. 'This follows on from work we have been doing in China for the last ten years, and will fill a significant gap in our knowledge of shorebirds in the Yellow Sea region.' Filling such knowledge gaps is urgently required because the epic migration of shorebirds from New Zealand to their Arctic breeding grounds is in imminent danger of collapse.

Research by scientists at the University of Queensland has documented dramatic declines in many shorebird populations in the Asia-Pacific region. The most common Arctic-breeding species occurring in New Zealand, the Bar-tailed Godwit is showing a gradual but steady decline, while other species have declined by 80% in 20 years. The second and third most numerous Arctic-breeding birds occurring in New Zealand, Red Knot and Ruddy Turnstone are both experiencing rapid declines. 'The main cause of these

declines is habitat loss at migration re-fuelling sites in East Asia,' said Woodley. 'To make their marathon migration flights between wintering sites in Australasia and breeding grounds in the Arctic, birds need to stop and refuel along the way. Many species may only require one stop, but that stop is essential if they are to complete their migration and breed successfully. However those vital stopover sites are rapidly disappearing before a tide of human development.'

Satellite data was used to document rapid loss of intertidal wetlands around the Yellow Sea coasts of China and the Korean Peninsula. Over a million hectares of tidal flats have been lost since 1950, with much of this over the last three decades. 'That is 7 times the intertidal area of the Manukau Harbour, Kaipara Harbour and Firth of Thames combined,' said Woodley.

Pukorokoro Miranda Naturalists' Trust, based on the Firth of Thames, has been at the forefront of efforts to secure a future for these migratory birds. 'We realised early on that protecting them here in New Zealand was not sufficient,' said Woodley. 'They depend on a network of habitats linking this country with East Asia, Russia and Alaska. Each link in the chain is essential for the migration system to work.'

'International speakers will tell amazing stories about these remarkable shorebirds and their migrations, about methods of research and the astonishing discoveries made along the way. How is a young godwit – barely four months old – able to set out from Alaska and find New Zealand, on its first ever migration flight? How is it possible to monitor a pair of nesting shorebirds from 12,000 km away, and learn how long each bird incubates before being relieved by its partner?

Pukorokoro Miranda Naturalists' Trust celebrates Year of the Godwit cont.

'We want to make all New Zealanders aware of these remarkable birds, and the perilous future they face. We want to share their fabulous journeys far and wide, and need support to continue our work here and in East Asia,' said Woodley.

Year of the Godwit 2015 events confirmed for Auckland are:

Wednesday 30th September 7.30 pm

Scott Weidensaul, naturalist and award-winning author

Wednesday 25th November 7.30 pm

Professor Theunis Piersma, University of Groningen and Royal Netherlands Institute of Sea Research

Venue: University of Auckland TÄ maki Campus, Gate 1, 261 Morrin Road, St Johns

Details for planned events elsewhere in the country will be announced shortly. To find out more, please click [here](#).

Indigenous Wardens get to know Wetlands

Birds have traditionally played a major part in the culture of Australia's Indigenous people. Recently, BirdLife Australia and the Port Phillip & Westernport Catchment Management Authority (PPWCMA) combined to host the inaugural Indigenous Wetland Wardens Workshop to train Indigenous Australians in identifying shorebirds and waterbirds and managing and preserving their critical wetland habitats.

"It's really important to provide a connection to the land to help people gain an insight into the shorebirds and their habitats," said Dan Weller, BirdLife Australia's Shorebirds 2020 Project Manager. "When people understand the links between the birds and their habitats, they can appreciate the flow-on effects of changes to the environment."

Experts from BirdLife Australia, PPWCMA, Parks Victoria and the Hobsons Bay City Council covered a range of topics, including shorebird ecology and identification, environmental monitoring and management of pest plants and animals.

Conducted at Altona and the Willum Warrain Aboriginal Gathering Place in Hastings, the workshop involved a mixture of classroom-based learning and practical activities at important wetlands on the shores of Victoria's Western Port and Port Phillip Bay, showcasing some important shorebird habitats of the region and the birds that rely on them.

The workshop was attended by members of the Wurundjeri Tribe Land and Compensation Cultural Heritage Council's Narrap Team, Boon Wurrung Foundation, Willum Warrain Aboriginal Association, Wathaurong Aboriginal Co-operative and Phillip Island Nature Parks.

The five-day training program was provided by PPWCMA's Ramsar Protection Program and funded by the Australian Government's National Landcare Program.

Dan Weller

Shorebirds 2020 Project Manager, BirdLife Australia

Shorebirds 2020 WA Regional Coordinator needed

Shorebirds 2020 is Australia's national shorebird monitoring program. It aims to reinvigorate and coordinate national shorebird population monitoring in Australia and discover what is driving any population trends both locally and throughout Australia. Shorebirds 2020 is also raising awareness about how incredible shorebirds are and actively engaging the community to participate in gathering information needed to conserve shorebirds.

The Shorebirds 2020 project is currently managed by a national Program Manager employed by BirdLife Australia based in the national office in Melbourne. Volunteer regional coordinators are dispersed throughout Australia to provide a local

contact for shorebird activities and information, including coordination of the annual summer shorebird survey, the program's key annual event.

A volunteer regional coordinator for Shorebirds 2020 in Western Australia is currently sought. The role will be available from July 2015 onwards. If you are interested in taking on the role or would like more information, please contact Kim Onton, retiring Shorebirds 2020 WA coordinator at shorebirds.wa@birdlife.org.au or phone 0428 880 580. Alternatively you can contact the national S2020 Program Manager Dan Weller at shorebirds@birdlife.org.au or 03 9347 0241.

Importance of tropical island restoration

The May 2015 issue of international journal *Biological Conservation* is dedicated to tropical island conservation. The special issue recommends best practices for restoring islands to their former glory by removing invasive rats, which have caused incredible destruction since they were introduced by humans.

These techniques have been pioneered in the Pacific by BirdLife International and partners such as Island Conservation, and are now used around the globe. We were involved with an expert symposium in 2013 that led to this special issue of *Biological Conservation*.

This comes at a time when BirdLife is preparing with partners for its [biggest island restoration projects ever](#): a huge and important operation to remove invasive species in French Polynesia, where most native birds are at immediate risk of extinction. As our boat is preparing for its mission to the remote Acteon and Gambier archipelagos, this [project has currently reached 79% of its funding target](#).



Tuamotu Sandpiper is the last remaining tropical sandpiper species (Photo: Pete Morris)

This operation is taking action for Critically Endangered species Tuamotu Sandpiper and Polynesian Ground-dove, through tried-and-tested science that has seen us remove rats and other killer invasive species from 34 islands in five Pacific countries. But before the boat can leave, [we still need your help to reach the target](#) and implement over one year's careful planning and research. Your generous support will be used to pay for hiring boats, helicopters, staff and purchasing the equipment needed to ensure our years of careful planning is expertly implemented. Your support will allow the Critically Endangered Polynesian Ground-dove, Tuamotu Sandpiper, White-throated Storm-petrel, and Phoenix Petrel populations to recover, safe from predators. You can be sure that you will be supporting a project that is backed by the best scientific research and advancements.

Invasive rats have travelled with humans to over 80% of the world's island groups, where negative

impacts have been recorded on 173 species of plants and animals, many of which are imperilled. Rat removal is one of the most immediate and significant actions needed to help restore these ecosystems. However, as the authors illustrate in the special issue, rat removal on tropical islands has had a lower success rate than those in temperate zones, and recently dropped below 80 percent, creating a critical gap in our island restoration toolkit.

The special edition in *Biological Conservation* includes ten peer-reviewed papers focused on cutting-edge tropical island research on rat biology and management, recommended best practices for rat removal, and emerging technologies which might be game-changing for island restoration. This represents a path forward for improving research and removal of rats on tropical islands. Ultimately, this means we can work towards saving more endangered island species faster in the tropics where conservation is most sorely needed.

"The benefits of this collective knowledge are being applied to the operation to be conducted by BirdLife and its partners (including Island Conservation) in French Polynesia in May. This collaboration and the resulting advancements will further improve the likelihood of success on six islands aimed at safeguarding eight globally-threatened bird species. Importantly the operation will also continue to build the knowledge of biologists and island restoration practitioners protecting the vulnerable habitats and highly threatened wildlife of tropical islands." Steve Cranwell, Programme Manager, Invasive Alien Species Programme, BirdLife International.

Shaun Hurrell

Note:

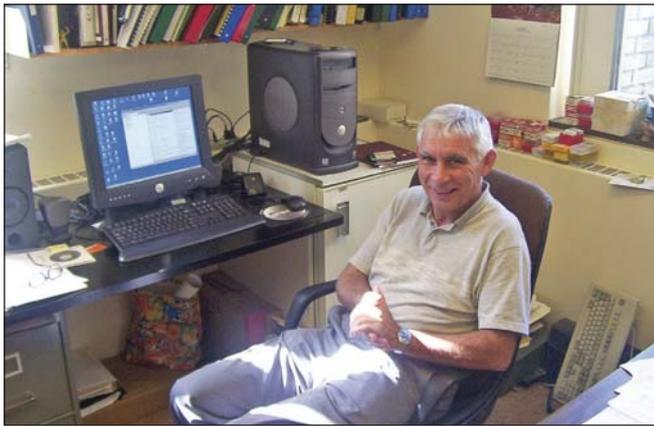
The special issue of *Biological Conservation*, edited by Dr James Russell of the School of Biological Sciences and Department of Statistics and Dr Nick Holmes of US-based NGO Island Conservation, compiled papers following a Tropical Rodent Eradication Review and Symposium convened at the University of Auckland in August 2013, and attended by more than 30 experts in the fields of island ecology, rodent ecology and rodent removal from around the globe. The Symposium was initiated by Island Conservation and convened by the Pacific Invasives Initiative, Grupo de Ecología y Conservación de Islas, BirdLife International, the Royal Society for the Protection of Birds, the US Department of Agriculture, the National Fish and Wildlife Foundation and the New Zealand Department of Conservation. The workshop goal was to assess current approaches and assumptions in rodent eradications and develop recommendations to improve the success rate of future rodent eradications undertaken on tropical and sub-tropical islands worldwide.

The special issue can be accessed [here](#), including free-to-download copies of the articles: [Tropical island conservation: Rat eradication for species recovery](#) and [Best practice guidelines for rat eradication on tropical islands](#).

More info here: <http://www.islandconservation.org/special-issue-of-biological-conservation-released/>

In grateful remembrance of Allan Baker, 1943–2014

On 20 November 2014, suddenly and unexpectedly, our worldwide shorebird community lost one of its greatest minds. Still in his post of 42 years as Senior Curator of Ornithology at the Royal Ontario Museum (recently retired from the position of Head and Vice President of its Department of Natural History), and yet full of an unrelenting lust for life and scientific adventure, Allan lost a brief battle with an intestinal disorder. He was preparing for another expedition to the *rufa* knots' southernmost non-breeding grounds, and was on the verge of various scientific breakthroughs. All of a sudden the ones that worked with him closely are left to our own devices, without his vision, encouragement and support, without his 'grumpy frown' and his sparkling mischievous humour.



Allan Baker in 2002 in his office at the Royal Ontario Museum, Toronto (Photo: Oliver Haddrath).

Allan was born on 9 July 1943 and grew up on a small farm in a remote part of New Zealand, near Collingwood, Golden Bay. His childhood home was near the base of Farewell Spit, the South Island's premier wader site. In this coastal setting Allan must have grown up with the sounds and sights of the various local oystercatchers. Given his lifelong fascination with evolution and shorebirds, it is quite possible that from a tender age he was actively thinking about their puzzling variation, relatedness and evolution. In any case, as a 'Wildlife Scholar for New Zealand', he chose to study the ecology and evolution of oystercatchers as his PhD project at the University of Canterbury in Christchurch, defending his thesis in 1972. During these years he also met and married his beloved wife of 44 years, Susan. They have two sons, Daniel and Benjamin.

Allan's first ten scientific papers were on the systematics of oystercatchers. In the early 1970s such work relied on measures of phenotypic variation in the size and structure (often the bones), rather than direct measures of variation in genotype. An early user of advanced multivariate statistics, Allan became a leading 'pheneticist' at the very time that this branch of evolutionary biology peaked (and disappeared again). Almost as soon as he had moved to Canada in 1972, to become an ornithology curator at the Royal Ontario Museum in Toronto (and with his 'phenetic' work yet to be published), Allan moved on to what he thought was the much more rewarding and exact science of evolutionary genetics. He quickly became a leader in the field, pioneering several methodologies that spawned landmark publications. Just as an example, in their latest paper in *Molecular Biology and Evolution*, Allan, together with his long-term research associate and head of his lab Oliver Haddrath and postdoctoral student Alison Cloutier, compared genomic sequences of extinct and extant birds and confirmed that the flightless ratites surprisingly do not form a group with a single root (i.e. monophyletic). Instead, the flighted tinamous of South America turn out to be the closest relatives to the extinct moa of New Zealand and both are nested within the ratite tree! Evolution always turns out to be more varied and surprising than the first, and even the second, impression. During the time that I knew Allan, I remained amazed about his capacity to always be so

bloody up-to-date on this expansive, fast advancing field of science, consistently speaking with expertise about the latest molecular genetic tools, applications and discoveries, always reinventing himself.

Many readers would know Allan from his frequent attendance at International Wader Study Group meetings, where he often projected a serious veneer, perhaps not showing much of his playful soul. Yet, as expressed by a colleague: "I often think of Allan as freely going between the professionals and the amateurs such that both were quite comfortable. That is not something we are all capable of doing, but the seemingly stand-offish Allan Baker had both a knack and love for doing it."

Allan came into my life in the summer of 1989, now 25 years ago, and I can honestly say that life has never been the same. One year into my own PhD, on our way to Rowley Island in the Canadian High Arctic as a junior colleague of Guy Morrison of the Canadian Wildlife Service, I spent a few days in Toronto and decided that Allan Baker was a scientist that I should try and see. I knew his publications on oystercatchers, and was intrigued by his first genetic studies on the evolution of sandpipers, a group that included my favourite study species – the Red Knot. I was dreaming about deciphering the evolutionary history of Red Knots and must have thought that Dr Baker of the Royal Ontario Museum might share that dream too. I wrote him a letter, and in early June 1989 I was welcomed at the ROM. That first meeting was as fascinating as it was challenging. Clearly, Dr Baker was a man with impressive expertise and vision, but I did not have the impression that he was easily won over. However, when I asked him to join a Wader Study Group workshop devoted to review the migration biology of Red Knots, a little later in the year in Ribe, Denmark, he took this seriously. He came to Denmark, presented his work on genetic relatedness within Red Knots and other sandpipers, and contributed in important ways to the meeting and its proceedings. It was the beginning of our shared journey of research and we became lifelong friends then and there.

Next, it was Allan who challenged me. It was August 1994 and we were in Vienna, Austria, at the International Ornithological Conference. He wanted to get his hands on the Red Knots wintering in Tierra del Fuego, and he knew about a site near the town of Río Grande where we could catch them, and wanted me to come. I felt I was too busy, but his words "Are you serious about knots, or aren't you?" keeled me over. A few months later, in February 1995, an international crew under his leadership had taken over Hotel Isla del Mar in Río Grande, Tierra del Fuego, and made a catch of no fewer than 850 Red Knots. This catch, and the fact that Patricia González had joined us from San Antonio Oeste with critical banding supplies and a fountain of inspiration, changed both our lives. It became the start of an impressive portfolio of still ongoing studies on what soon would be a truly endangered subspecies of Red Knot, the *rufa* knots.

A much more recent turning point in my life was the foundation in 2006 of the Global Flyway Network. An event at which again Allan was my brother-in-arms. The new director of the Dutch chapter of BirdLife, Adrie de Gelder, had indicated a willingness to help continue our flyway studies on Red Knots and other shorebirds, work that was rapidly becoming a global effort. This financial backing provided a way to secure the work by Patricia González in Argentina and indeed elsewhere along the flyway, and the means to set up complementary work along the beleaguered East Asian-Australasian Flyway. This latter flyway connects Allan's homeland New Zealand with the Russian Far East, through densely human-populated East Asia. Our shared societal, conservation-related concerns and our shared scientific interests came together in the Global Flyway Network. I am still not able to think of any scientist in the world with whom I could have started this but Allan.

In grateful remembrance of Allan Baker, 1943–2014 cont.



Allan Baker, the field man: scanning Red Knots at Quarry Island in the Mingan Archipelago National Park Reserve, Quebec, 12 August 2012 (Photo: Patricia M. González).

But let me backtrack to the late 1990s. During the northward migration in 1997, Allan organized an expedition to explore the various staging sites used by *rufa* knots. A group of enthusiasts from around the world caught Red Knots and other waterbirds along much of the Atlantic coast of South America while discovering the delights of asado in Argentina and caipirinha in Brazil. In 1998, again under Allan's guidance, we focused on the northward staging of Red Knots at San Antonio Oeste. This site, home to Patricia González, who became our foremost Argentinian research collaborator, was of great importance for Red Knots. Birds seemed to move up San Antonio Oeste from Tierra del Fuego, before launching themselves on what are now known to be nonstop long-haul flights to north-eastern coastal USA. The international expedition, with much local participation, spent a full five weeks on the shores of San Matias Gulf, with successful Red Knot catches every week. Not only did we have a great time together, much was learned about the moulting and fuelling of the knots in what was then still very much 'Terra Incognita'. In all of this, Allan was not only the organizer, bird-catcher, cook, entertainer on the dance floor and senior scientist, he also did all the shopping. His absolutely hands-on approach ensured that a new generation of young Argentinian biologists received as much research experience, and had as much fun, as possible.

From 1997 on, these international research efforts on Red Knots included a visit to Delaware Bay, USA, a traditional refuelling stop for the species that had become an ecological trap. This site had a unique and highly abundant local food source for the Red Knots (horseshoe crab eggs), but was suffering from human overharvesting of the spawning horseshoe crabs (especially the big fat females). With hindsight, the Red Knot workers from across the globe arrived just in time to assess the situation and cry 'wolf'. Patricia González, who quickly developed the skills to be a capable avian demographer, collaborated with Allan and others on a paper looking at the fitness consequences of decreased refuelling rates and late arrival of Red Knots in Delaware Bay, published in the *Proceedings of the Royal Society B*; for now it is his best cited paper among the almost 200 that he published (scientifically referred to over 160 times since 2004). The Delaware Bay shorebird conservation fight that ensued became a celebrated case. One of the first Red Knots captured in Tierra del Fuego in 1995, a bird later re-banded as 'B95' and christened 'Moonbird' in a popular book titled after the bird, became the oldest known *rufa* bird and a true celebrity. B95 may have survived Allan: he was last seen in Delaware Bay and photographed by Allan at Reeds Beach on 25 May 2014.

In addition to the monitoring of Red Knots in Tierra del Fuego, Patagonia and Delaware Bay, with Yves Aubry of Environment Canada and Parks Canada, Allan kept up a programme of observations to assess annual Arctic breeding success at a southward staging site from 2007 to 2013. At the Mingan Archipelago in the Gulf of St Lawrence, Canada, migrating Red Knots come through in 'waves' composed of different

sexes and ages. As males take care of their precocial chicks, in good years there would be a small wave of birds of both sexes (successful females and unsuccessful females and males), followed by a wave of successful males that overlaps or precedes a third wave of juveniles. In bad years the first wave would be big (all the unsuccessful adults) followed by a few successful males and some juveniles. This work has generated a rich picture of interannual differences that now needs publication.

When I try to look back, there was all that *joie de vivre*, a great joy of life, and lots of laughter. Many would remember their hilarious moments with Allan. There was also the excitement about pushing the boundaries of our knowledge. He opened many worlds for me, and did so for many colleagues. In fact it was Allan, the geneticist, who first tried to convince me that the migration strategies of Red Knots and other coastal shorebirds might be driven much more by learning than by hard-wired genetic instruction. There was also his sense of urgency about humankind's foul play with the world, the fact that so many fantastic natural history phenomena are on the brink of disappearance.



Moonbird, Red Knot B95, photographed by Allan Baker at Reeds Beach, New Jersey, on 25 May 2014, and seen again in January 2015 at Río Grande, Tierra del Fuego by Guy Morrison and Luis Benegas.

As we have seen, during his many years of action along the *rufa* flyway, along with other conservation efforts he was involved in such as the Kiwi of New Zealand, Allan showed total hands-on commitment. His commitment and ability to share becomes abundantly clear in a moving six-minute video tribute to Allan compiled by high school kids of 'Eco Huellas' group in General Roca, Río Negro, central Argentina, who participated in the shorebird fieldwork at San Antonio Oeste in recent years (see https://www.youtube.com/watch?v=_Wg-yetGqo&list=UUD6OR0ax1KJ5X_5jEJ6a9ww).

To me Allan lived in the spirit of Kairos, son of Zeus and god of the opportune moment. Unlike his adversary Chronos, the god of the relentless clock, Kairos embodied an emphasis on sudden chances, on making the most of the indeterminate time in which everything happens. During our catching adventures I have seen how Allan could wait so well, and then grab his moment of luck. In doing his science, he was no different, waiting (i.e. working!) until it all clicked. In December 2013 on the windswept tidal flats of Bahía Lomas in southern Chile, despite his somewhat frail constitution, he would always be the last to give up following Red Knot flocks to read rings and flags: very persistently inviting Kairos to contribute. Perhaps this is also the reason why some exciting and important pieces of work are left unfinished. But as much as we will miss him, we will carry on, encouraged by his fantastic inspiration. Thanks Allan.

Theunis Piersma

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