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Newsletter for the Asia Pacific Flyways

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

Editorial

Well the seasons change again and more exciting news comes from far flung corners of the flyway. The improvements in our knowledge of shorebird migration require enormous input from many different people in many different countries. From supplying engraved leg flags and bands and participating in catching and banding activities to the effort involved in resighting banded and flagged birds and compiling the database of recoveries so that reports on the data can be made. Each plays an important role vital to the continuation of shorebird and migration studies along the flyway.

Thank you all for your continued effort and happy wader watching!

The 2011 NWA Expedition still has a few places available. It will take place from 19th February to 12th March 2011. This is a great opportunity to be involved in international shorebird conservation and meet like-minded people from across the flyway. Please contact Clive Minton mintons@ozemail.com.au or Roz Jessop rjessop@penguins.org.au for further information.

BBO Warden(s) and Assistant Wardens wanted

The Broome Bird Observatory (BBO) is a not-for-profit organisation operating under the auspices of Birds Australia. Established in 1988, it is situated on the shores of Roebuck Bay 25km from Broome, Western Australia. Roebuck Bay is located on the East-Asian Australasian Flyway and is a site of international significance for migratory shorebirds.

The BBO provides accommodation and campsites for the public. It conducts regular bird watching tours as well as education courses and activities. The BBO provides a base for regular international wader study and benthic research expeditions, the Global Flyway Network research and other local active research programs.

The BBO is looking for a Warden or a couple as Joint Wardens, to operate the facility from late November / early December through to December 2011 (negotiable). Assistant Wardens are required from February / March through to October 2011.

These are hands-on roles best suited to highly

motivated self-starters. Hours can vary according to guest numbers, seasonal periods, and scheduling of tours and courses. Excellent people skills will be needed to work positively with guests in the challenging work environment. Extreme climatic conditions (heat and humidity) can be experienced throughout the working day and evening, particularly in the wet season from November to April. Flexibility and initiative will be necessary to cope with the challenges that present themselves.

The BBO has been approved as a Special Program by the Department of Immigration and Citizenship which provides the Management Committee with the opportunity to invite up to 3 individuals per annum from overseas, particularly from those countries along the East-Asian Australasian Flyway, under Special Program (subclass 416) visas.

For further information about the opportunities please contact the BBO by email bbo@birdsaustralia.com.au, phone +61 (0) 8 9193 5600 or visit www.broomebirdobservatory.com.



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www.awsg.org.au

Saemangeum - opening sea-gates essential to conserve internationally important concentrations of shorebirds

Shorebird counts were conducted in the Saemangeum Shorebird Monitoring Program (SSMP) Study Site between 4th and 9th September 2010 by Nial Moores (Director Birds Korea and IUCN SSC Member) and Ju Yung Ki (Chonbuk National University and Birds Korea Advisor on Saemangeum).

Before the seawall close in 2006 Saemangeum was the most important known wetland for shorebirds in the Republic of Korea and in the Yellow Sea. It supported huge numbers of shorebirds on both northward (April–May) and southward migration (August–October) along the East Asian-Australasian Flyway.

The SSMP (conducted by Birds Korea and the AWSG in April and May 2006-2008) proved that following closure of the Saemangeum seawall there were massive declines in many shorebird species, most especially the Great Knot, *Calidris tenuirostris*. The SSMP revealed that the global population of the Great Knot declined more than 20% between 2006 and 2008 due to the loss of natural tidal flows over the mudflats at Saemangeum.

While the environment behind the Saemangeum seawall has been very badly affected by the reduced tidal flow and worsening water quality since 2006, there have been few data on the impact of these changes on shorebird numbers during southward migration.

Between 4th and 9th September we counted at least 26,551 shorebirds within Saemangeum, excluding approximately 2,000 shorebirds that flew in from the Geum Estuary to roost on tidal-flats near Gunsan airport (Mangyeung) during high-tide only. A further 22,026 shorebirds were counted within the Geum Estuary and 2,661 shorebirds in Gomsu Bay.

Our data show that Saemangeum is still the most important shorebird site in the Republic of Korea during southward migration, although the numbers of most species are much smaller than recorded by government surveys before seawall close in 2006.

The 2010 survey found seven species of shorebird in Ramsar-defined internationally important concentrations (more than 1% of Flyway population) within Saemangeum, including 2.5% of the world's Endangered Nordmann's Greenshank, *Tringa guttifer*. In addition, four Critically Endangered Spoon-billed Sandpiper *Eurynorhynchus pygmeus* were found.

Within Saemangeum 18,615 shorebirds were found within the Mangyeung Estuary; half of these (9,758) feeding on a tidal-flat island off Haje close to the sea-wall and sea-gates where there was some



Saemangeum, degraded but still internationally important

obvious tidal movement. 7,936 shorebirds were counted in the Dongjin Estuary with almost all of these on islands between Gye-hwa and the seawall, again close to the sea-gates.

Few shorebirds, and none in internationally important concentrations, were found upstream of the Mangyeung and Dongjin estuaries due to the combination of very poor water quality and very restricted tidal range. However, an internationally important concentration (30) of the globally Endangered Black-faced Spoonbill, *Platalea minor*, was observed in the Mangyeung River.

Comparison between our data and shorebird counts during southward migration in 2003 and 2005 (published by a government body) reveals very major declines in several species since the seawall closure in 2006 (see table on following page).

Conservation of internationally important concentrations of shorebirds and other waterbirds and biodiversity is a national obligation under several existing agreements and conventions (including the Ramsar Convention and the Convention on Biological Diversity).

To maintain present numbers of shorebirds within Saemangeum and to fulfil even in part existing conservation obligations, the sea-gates at Saemangeum need to be kept open allowing regular tides.

Failure to maintain or improve tidal flow within Saemangeum will very likely lead to further declines in shorebirds, both at the site and the population level.

For more on the SSMP 2006-2008 please visit: <http://www.birdskorea.org/Habitats/Wetlands/Saemangeum/BK-HA-SSMP-report-2008.shtml>

Birds Korea, September 12th 2010

Table: Selected shorebird species within Saemangeum

Species Name	Common Name	GCS	1% Flyway	Saemangeum Peak Counts Aug-Oct 2003 / 2005	Mangyeung Sep 2010	Dongjin Sep 2010	Saemangeum Total Sep 2010
<i>Haematopus (ostralegus) osculans</i>	Far Eastern Oystercatcher		100	12	495	13	508
<i>Pluvialis squatarola</i>	Grey Plover		1300	6532	1407	137	1534
<i>Charadrius alexandrinus</i>	Kentish Plover		1000	6280	1437	11	1448
<i>Charadrius mongolus</i>	Mongolian Plover		600	3897	3948	213	4161
<i>Limosa limosa</i>	Black-tailed Godwit	NT	1500	4970	403	1	404
<i>Limosa lapponica</i>	Bar-tailed Godwit		1700	3800	453	27	480
<i>Numenius phaeopus</i>	Whimbrel		550	2197	43	46	89
<i>Numenius madagascariensis</i>	Far Eastern Curlew	VU	300	1949	120	31	151
<i>Tringa nebularia</i>	Common Greenshank		1000	1984	719	96	815
<i>Tringa guttifer</i>	Nordmann's Greenshank	EN	8	2	16	4	20
<i>Xenus cinereus</i>	Terek Sandpiper		500	3134	885	2112	2997
<i>Calidris tenuirostris</i>	Great Knot	VU	3800	66380	857	1102	1959
<i>Calidris ruficollis</i>	Red-necked Stint		3200	1590	1665	3094	4759
<i>Calidris alpina</i>	Dunlin		10000	41300	5290	625	5915
<i>Eurynorhynchus pygmeus</i>	Spoon-billed Sandpiper	CE	5	25	1	3	4

"GCS" (Global Conservation Status) is from BirdLife International 2010 on behalf of the IUCN. NT = Near-threatened, VU = Vulnerable, EN = Endangered and CE = Critically Endangered. "1% Flyway" is the number of that species representing an internationally important concentration (of 1%) as defined by the Ramsar Convention, and as listed for use by Ramsar in Waterbird Population Estimates - Fourth Edition (Wetlands International, 2006). "Peak counts in 2003 and 2005" are those given during southward migration in 철새도래 및 서식환경 조성연구 [I] 2003.11/ 철새도래 및 서식환경 조성 연구 [II] 농업 기반공사 농어촌연구원 2005.11 Numbers in bold represent internationally important concentrations.

Study on the southward migration of shorebirds at the South Kuril Islands, Russia

The Kurile Islands are a narrow volcanogenic archipelago with a length more than 1000 km, extending from Kamchatka Peninsula, Russia, to the north part of Hokkaido, Japan. Geographically the Kurile chain is the border between the Sea of Okhotsk and the Pacific Ocean. Migration of birds through this area is poorly studied.

The study of shorebirds on southward migration was carried out between 15 August and 3 September 2009 on Iturup Island (South Kuril Islands). The works were conducted within the framework of Alaska Asia Avian Influenza Research Group (A³IR) International Project. From the 13–15 August we carried out 12 counts at 3 sites on the Sea of Okhotsk coast covering a total length of 31.1 km. On 1–3 September we undertook 6 counts at 1 site on the Pacific coast covering a total length of 2.7 km.

During the counts we recorded 11 species of shorebirds (table 1). The most common were Red-necked Stint (41.6 %), Grey-tailed Tattler (23.7 %) and Whimbrel (14.9 %). Two more species – Temminck's Stint and Dunlin – were recorded only during catching. Results of the captures are presented in table 2.

We also mist-netted for shorebirds over 4 days in 3 different locations on the island. All of captured shorebirds were marked by leg flags on the left tarsus (yellow over white – the combination used for Sakhalin) and banded with metal ring on the right tibia. Additionally we cut inner angles of flags (as shown on picture) to distinguish them from shorebirds marked in Sakhalin.



Ruddy Turnstone with leg flags, Iturup 2009.

To get the full picture of southward migration through the South Kurile Islands it is necessary to conduct more long-term surveillance studies in the region.

A.I. Matsyna, E.L. Matsyna, A.A. Matsyna

Table 1. Results of birds counts on the coasts of Iturup Island.

Species	Coast of Sea of Okhotsk	Pacific Coast	Total
Pacific Golden Plover <i>Pluvialis fulva</i>	19	12	31
Mongolian Plover <i>Charadrius mongolus</i>	14	–	14
Ruddy Turnstone <i>Arenaria interpres</i>	–	6	6
Wood Sandpiper <i>Tringa glareola</i>	7	–	7
Grey-tailed Tattler <i>Heteroscelus brevipes</i>	31	117	148
Common Sandpiper <i>Actitis hypoleucos</i>	22	16	38
Red-necked Stint <i>Calidris ruficollis</i>	208	52	260
Great Knot <i>Calidris tenuirostris</i>	–	11	11
Sanderling <i>Calidris alba</i>	11	2	13
Japanese Snipe <i>Gallinago hardwickii</i>	4	–	4
Whimbrel <i>Numenius phaeopus</i>	93	–	93
Total	409	216	625

Table 2. Number of shorebirds captured on Iturup Island.

Species	Number
Mongolian Plover <i>Charadrius mongolus</i>	1
Ruddy Turnstone <i>Arenaria interpres</i>	1
Grey-tailed Tattler <i>Heteroscelus brevipes</i>	49
Common Sandpiper <i>Actitis hypoleucos</i>	3
Red-necked Stint <i>Calidris ruficollis</i>	16
Temminck's Stint <i>Calidris temminckii</i>	1
Dunlin <i>Calidris alpina</i>	1
Great Knot <i>Calidris tenuirostris</i>	1
Total	73

Shorebirds 2020 Update

Birds Australia's Shorebirds 2020 National Population Monitoring Program, which is part funded by the Australian Government's Caring for our Country Program and the Department of Sustainability, Environment, Water, Population and Communities; has been running for over three years now and is raising awareness and actively engaging the community to participate in gathering the information needed to conserve shorebirds. A robust monitoring program has been designed, delivering significant improvements in the quantity and quality of data being collected. There is now a clear understanding of what level of change in national shorebird population trends that data will be capable of reporting.

Analyses undertaken as part of the program suggests significant declines of both resident and migratory shorebird species, with population declines identified in species of between 10–75% over 28 years becoming apparent, and some of the more common migratory shorebirds possibly declining by up to 10–30% over 28 years.

Recently, Shorebirds 2020 helped to gather evidence for the listing Great Knot and Eastern Curlew as Vulnerable under IUCN (for Flyway-wide declines averaging greater than 50% over 25 years and a rapid 20% Flyway-wide decline over less than five years, respectively).

Recently Shorebirds 2020 has said goodbye to

Program Manager, Jo Oldland, who has moved on to a position with the Department of Sustainability and Environment. Technical Manager, Rob Clemens will also be departing in December, relocating with his family to sunny Queensland, where he will be working with the Queensland University team on an Arc Linkage Grant recently secured to investigate Flyway wide shorebird population trends. Both would like to take the opportunity to sincerely thank all the volunteers who helped build the program to where it is today – keep up the fantastic effort for our shorebirds!

Apart from that its business as usual, the summer counts are nearing, so get in touch with the Shorebirds 2020 team, introduce yourself to the new staff and give them your count dates, or indicate your interest in getting involved. Also a reminder to give the online data entry a go to submit your count records this summer - considerable resources and time have gone into testing and improving the system and it is now the main way to enter and access count records. Access the online data entry site at <http://data.shorebirds.org.au>. For more information or to get involved contact Shorebirds 2020 at shorebirds@birdsaustralia.com.au, phone (03) 9347 0757 or visit www.shorebirds.org.au for more information.

The Shorebirds 2020 Team.

Oversummering Spoon-billed Sandpiper in Thailand

On July 19, 2010, a shorebird survey team observed a first-summer individual of the Critically Endangered Spoon-billed Sandpiper *Eurynorhynchus pygmeus* at Khok Kham, on the coast of the Inner Gulf of Thailand about 50 km southwest of Bangkok. This is the first record of the species oversummering in its wintering grounds.

The observation confirms what many shorebird biologists had suspected, because other species such as Red-necked Stint spend their first summer in their non-breeding range. The Spoon-billed Sandpiper breeding grounds are far to the north of Thailand in the Far East of Russia.

The team members Krairat Iamamphai (Head of Bung Boraphet Wildlife Research Station), Thithi Sonsa and Somchai Nimnuan (both from Department of National Parks, Wildlife and Plant Conservation) were also excited to observe the species feeding on the mudflats. "This is also the first confirmed sighting at Khok Kham of Spoon-billed Sandpiper feeding on the mudflats," said Somchai Nimnuan, who also took photographs of the observation. Khok Kham has become the most reliable site in South-East Asia to see the species from November to March but all previous

observations there were from man-made salt pans.

"The numbers of Spoon-billed Sandpipers currently known to occur in the Thailand's Inner Gulf are very small —perhaps now only around ten birds in total, of which only a proportion will be first-years—while the area of mudflats are vast," said Assistant Professor Philip D. Round, an ornithologist who is world authority of birds in Thailand and a member of the BirdLife Partner's Bird Conservation Society of Thailand Conservation (BCST) Committee.

"This finding should spur us to look for more oversummering Spoon-billed Sandpipers, more surveys and studies, and of course more conservation actions. Thailand must do its share to conserve this species through protecting Inner Gulf Coastlines, both offshore mudflats and onshore salt-pans, which the birds are known to frequent for much of the tidal cycle and by preventing the illegal netting of shorebirds for food, which still continues," added Gawin Chutima, Chairman of BCST.

Birdlife International News Posts: Fri, Jul 30, 2010

<http://www.birdlife.org/community/2010/07/oversummering-spoon-billed-sandpiper-discovered-in-thailand/>

Initial Results of Engraved Leg Flags on Bar-tailed Godwits in Victoria

Individually engraved leg flags (ELFs) have been used on various shorebird species in Victoria since 2003. The prime purpose of using ELFs is to facilitate the resighting of birds in the field in order to determine survival rates without the need for recapture. They have greatly increased the value of each sighting over that of a bird carrying a plain flag, because the banding date etc. is known. This has been very successful, with up to 80% of individuals being sighted again throughout the flyway.

In 2009 it was therefore decided to extend the use of ELFs in Victoria, initially starting on species with high resighting rates such as Bar-tailed Godwit and Red Knot. The prime purpose of using ELFs on these species in Victoria was to gain more detailed information on migratory movements.

On all occasions the ELF was placed on the right tibia (the same place which the plain orange flag used to be located), with the metal band on the left tarsus. A total of 625 orange ELFs have now been deployed, with 283 in the first year (2008/09) and 342 in the second year (2009/10).

Amazingly there have been 53 different individuals resighted away from the flagging areas up until the end of July 2010 (see table below). All but one of these was originally marked in the 2008/09 season, giving a distant resighting rate of 18% already on those birds.

Sighting Location Number of individual birds (data to 31/7/10)	
North Island, New Zealand	32
South Island, New Zealand	11
Japan	6
South Korea	3
Total	52
Plus one bird seen in Queensland (twice) and northern New South Wales	

Sightings in New Zealand

Not surprisingly the majority of resightings (43) have come from New Zealand. This is because a high proportion of first year Bar-tailed Godwits in Victoria move across the Tasman Sea to New Zealand during their second year, thereafter becoming New Zealand "citizens". Of the sightings in New Zealand 34 relate to birds originally marked as juveniles and seven to birds in their second year, with only two apparent adults (2+) changing location.

The timing of the resightings is particularly enlightening. Firstly there was a most unexpectedly

quick trans-Tasman movement with one bird (ELF 95) marked in Victoria on 9th February 2009 being seen near Auckland only seven weeks later (29th March). This is the first time there has been any indication that such movements can take place at the same time as the adult Bar-tailed Godwits are moving in the opposite direction on their way back to their breeding grounds.

The next sighting in New Zealand was not until late September and then there were eight sightings in October and eight more in November. These results tend to confirm previous views that the main trans-Tasman movements of immature birds take place in the late September/November period. Many of the birds which have crossed to New Zealand have subsequently been resighted there several times.

Sightings in Asia and elsewhere in Australia

As would be expected, most of these were flagged as adult birds or had reached at least the age of three by the time they were resighted. However a considerable surprise has been the sighting of two different Bar-tailed Godwits in Japan which were only two years old. Previous information has suggested that they do not migrate northwards for the first time until age three. Both birds were seen at the same place by the same observer on 25th May. This is a rather late date as many Bar-tailed Godwits would normally have already reached their breeding grounds in Alaska by the last week in May.

The two resightings in Queensland and one in New South Wales all relate to the same individual which was probably on southward migration back to its non-breeding area in Victoria.

Conclusions

With the unexpectedly high "dividends" already received from the first year's investment in ELFs for Bar-tailed Godwits the future looks extremely promising. With even more birds flagged in 2009/10 than in 2008/09 there should be another huge flood of sightings from New Zealand starting in late September/October 2010. Increasingly, as birds mature, we can also expect more sightings of birds on migration through Asia. And best of all it would be nice to have one seen on its breeding grounds in Alaska!

The ELF program has already shown an unusual mid-season migration across the Tasman by one bird and will gradually produce more quantitative information on the timing of the main trans-Tasman movement of immature birds. Further evidence should also accrue concerning the age of first northward migration for Bar-tailed Godwits.

Clive Minton, Susan Taylor, Roz Jessop, Heather Gibbs, Tony Habraken and Rob Schuckard

Oil spill in Newcastle Harbour, New South Wales, affects shorebird roost sites

On 25 August 2010, a 21-year-old Liberian-flagged coal carrier, the *Magdalene*, accidentally pumped thick black oil mixed with ballast water into Newcastle harbour while de-ballasting to take on coal. The ship was moored in the South Arm of the Hunter River at a coal-loading terminal on Kooragang Island. According to the Newcastle Herald (27 August 2010) a ..."spokesman for the ship said it seemed a fuel tank had ruptured or leaked internally, sending fuel oil into a saltwater ballast tank". Port Authorities were notified at about 2.20pm on Wednesday 25 August, and booms were deployed about three hours later. Clean-up crews recovered about 12 tonnes of oil but more escaped the booms and spread up the North Arm, coating mangroves, saltmarsh, driftwood, sand and shoreline boulders over a vertical zone of about 30cm, around the high tide level.



Photo: Tom Clarke

Oil on Stockton Sandspit

As the inflowing tide carried the oil into the North Arm, strong westerly winds concentrated it along the eastern side of Stockton Channel, Fern Bay, Stockton Sandspit beach and even into the lagoon on Stockton Sandspit where its maximum extent was imprinted on saltmarsh. Fortunately, very little oil landed on Kooragang Dykes, the primary shorebird roost, nor the intertidal foraging areas behind the dykes. Also, further up the North Arm, Fullerton Cove, the most important shorebird foraging area, appeared to escape contamination.

National Parks and Wildlife Service (NPWS) has been ensuring that thorough clean-up operations are conducted within Kooragang Nature Reserve (now part of the Hunter Wetlands National Park), which includes Stockton Sandspit, Kooragang Dykes, the North Arm north of Stockton Bridge and Fullerton Cove. It is a difficult task in a dynamic tidal environment and has necessitated numerous repeat visits to shoreline areas where oil is often covered or re-exposed by waves and tides. Oiled

saltmarsh and mangroves have been trimmed, bagged and removed; oiled driftwood has been removed; oil globs in sand have been raked out and removed; oil globs on rocks have been wiped or the entire rocks removed. However, almost a month after the oil spill, more oil globs and oil-saturated sand and mud have been exposed at Stockton Sandspit and oil still needs to be cleaned from many rocks. The clean-up continues 4 weeks after the oil spill.



Photo: Doug Beckers

Oiled Australian Pelican being cleaned by [L-R] Cathy Gilmore and Jo Bird of Australian Seabird Rescue, Central Coast Branch

Sadly, more than 35 Australian Pelicans became contaminated with this heavy fuel oil, necessitating an extensive rescue and rehabilitation effort by NPWS and Wildlife Carers. Cleaning the fuel oil from the pelicans strips the natural oil from their feathers and it takes 2 to 3 weeks for the birds to re-oil themselves. These birds are being cared for at Taronga Zoo until they are fit for release. They will be banded prior to release so that we can learn more about their movements. An oiled pelican has been observed feeding its chick at the Woy Woy nesting colony – approximately 100km from Newcastle Harbour, highlighting the extensive foraging flights these birds may make on a daily basis.

The ease with which this sticky, stinking, heavy, black oil spread into the North Arm from an apparently containable area in the South Arm highlights the need for both a more prompt and a more effective response by the Port Authorities to any future similar accident. It was indeed fortunate that the spill occurred before the majority of shorebirds had returned to the estuary from their northern breeding grounds allowing time for a significant clean-up effort. However, the clean-up continues and it is hoped that there is no long-term impact on the major foraging areas.

Liz Crawford

Sightings of ELF Ruddy Turnstones on migration

This note summarises the movements information which has been derived so far from the introduction of engraved leg flags on Ruddy Turnstone in Victoria (174 since late 2003), in South Australia (974 since early 2004), and in King Island, Tasmania (828 since March 2007).

Birds were flagged with the normal colour code allocated to their particular area – orange (Victoria), orange over yellow (South Australia), and orange over blue (Tasmania). In all cases it was the orange flag which was engraved.

So far there have been 143 resightings of ELF Ruddy Turnstone away from the marking areas, with 131 of these overseas. 126 of these have been in Taiwan where systematic massive field observation work has been organized by ChungYu Chang (Taiwan Wader Study Group coordinator) in recent years. Other overseas sightings have been in Hong Kong, mainland China, Japan and Korea. Sightings have been both during northward and southward migration although, as with most other species of waders in Australia, sightings on northward migration predominate.

The sightings include many multiple sightings of the same bird. So the total number of individuals involved is significantly less than the 143 total. Some of these resightings have given an excellent insight into the constancy of use of particular stopover locations. It is particularly interesting that two birds have regularly used the same stopover location in Taiwan on both northward and southward migration. XO/EA has been seen in all except one migration season ever since it was originally banded and flagged on King Island in March, 2007. 4H/XM has been seen in Taiwan in each migration season since it was marked at King Island in March 2008. Both birds have also been recaptured once back in King Island (when their flags were changed) and 4H/XM was also seen there during the other non-breeding season.

The strong emphasis on Taiwan as a stopover location for Ruddy Turnstones on both northward and southward migration is not considered to have solely derived from the high sighting efforts there. It does appear to be a location particularly favoured by Ruddy Turnstones. This is illustrated by the fact that all four Ruddy Turnstones from Flinders carrying geolocators used Taiwan as their first stopover location in Asia on northward migration.

The lack of sightings elsewhere in Australia during northward migration supports the view that when birds depart from their breeding areas in April they make very long non-stop migrations well into Asia (Taiwan is 7,600km).

The insight which these engraved leg flags are giving into the migratory movements of individual birds is quite amazing. These results are of course only achievable because of the incredible dedication of flag sighters in Taiwan.

The future

The use of ELFs on Ruddy Turnstone in Victoria, the south-east of South Australia and on King Island is planned to continue for several more years. This is not only to strengthen the data for calculation of survival rates but also because the ELFs are providing such valuable information on migratory movements.

This work has been greatly supplemented by the deployment of a further 75 geolocators on Ruddy Turnstones at these locations in March/April 2010. As results become available from the retrieval of these geolocators over the next couple of years we will hopefully develop a greater insight into the migratory strategy of Ruddy Turnstone than any other wader species which visits Australia.

Thanks to all involved, from banders to sighters.

Clive Minton, Maureen Christie, Penny Johns, ChungYu Chiang, Chih-Hui Liu and Heather Gibbs



Australasian Wader Studies Group

Membership of the Australasian Wader Studies Group is open to anyone interested in the conservation and research on waders (shorebirds) in the East Asian-Australasian Flyway. Members receive the twice yearly journal *Stilt*, and a quarterly newsletter, *Tattler*. Visit www.awsg.org.au for more information.

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