

Grey Plover Migration in the East Asian-Australasian Flyway

Tony Flaherty is Manager, Coast and Marine, Natural Resources Adelaide and Mount Lofty Ranges, Department of Environment, Water and Natural Resources. Tony works with a small team to undertake coastal conservation works in the Adelaide region, including shorebird conservation and monitoring. Clive Minton has a long global history in shorebird research and the development of cannon-netting as a means of catching waders for banding and demographic studies. Both Clive and Maureen Christie have had a long involvement in the Victorian Wader Study Group's research program. Maureen is also a key member of Friends of Shorebirds SE, dedicated to studying and conserving shorebirds with a focus on the southeast of South Australia.



The Victorian Wader Study Group and Friends of Shorebirds SE have been assisting the Adelaide and Mt. Lofty Ranges Natural Resources Management (NRM) Board with shorebird banding studies along the "Sapphire Coast" area north of Adelaide in South Australia (SA) over the last five years. The work of these groups and other volunteer shorebirders over many years has formed the scientific basis for the recent establishment of the Adelaide International Bird Sanctuary (AIBS) and the recent successful nomination of the area and upper Gulf St. Vincent (GSV) as an East Asian-Australasian Flyway (EAAF) site (EAAF131). A key focus of work since 2012

has been to band and colour flag shorebirds. Whilst colour flagging has been undertaken at a range of sites across southern Australia, the gulf areas of SA have had limited work

transmitters deployed at Roebuck Bay, northwestern Western Australia (WA) in 2016 were also tracked to nearby locations on mainland Siberia. The WA birds remained on the mainland.

What is remarkable is the validation that these WA and SA satellite-tracked birds have made of earlier biometric work. A 2001 analysis of biometric data suggested that northwestern Australian Grey Plovers probably utilised mainland Siberian breeding sites east of the Lena River, and that some southeastern Australian birds may breed on Wrangel Island, off the coast of northeast Siberia.

Other migratory species on Wrangel, such as Red Knots and Lesser Snow Geese, utilise the American Pacific Flyway. Prior to a single 2014 sighting of a bird flagged on Wrangel Island, in Jiangsu Province, East China, there was no flyway information for Grey Plovers breeding on Wrangel Island. This tracking confirms Grey Plover use of the EAAF.

One WA-deployed unit and two SA-deployed units continued transmissions throughout the breeding season, and all three birds appear to have hatched eggs successfully. One SA bird was successfully tracked back to Australia. It utilised the same northern Bohai Bay location in China for a stopover and on departure, as well as a brief prior stop at Ul'banskiy Bay in eastern Russia. The bird successfully skirted super typhoon Meranti as it hit the Taiwanese coast. The bird did not return to GSV, but landed on the northern Australian coast near Maningrida, where it remained for some time before transmission was lost. Areas of the Northern Territory coast east of Darwin are important for Grey Plover, with particularly large roosts of them and other shorebird species being recorded in earlier aerial surveys.

The one bird which was tracked from southern Australia, Wrangel Island, and northern Australia flew over 25,000 km in its annual migration cycle.



Maureen Christie and Clive Minton attach a PTT to a Grey Plover.

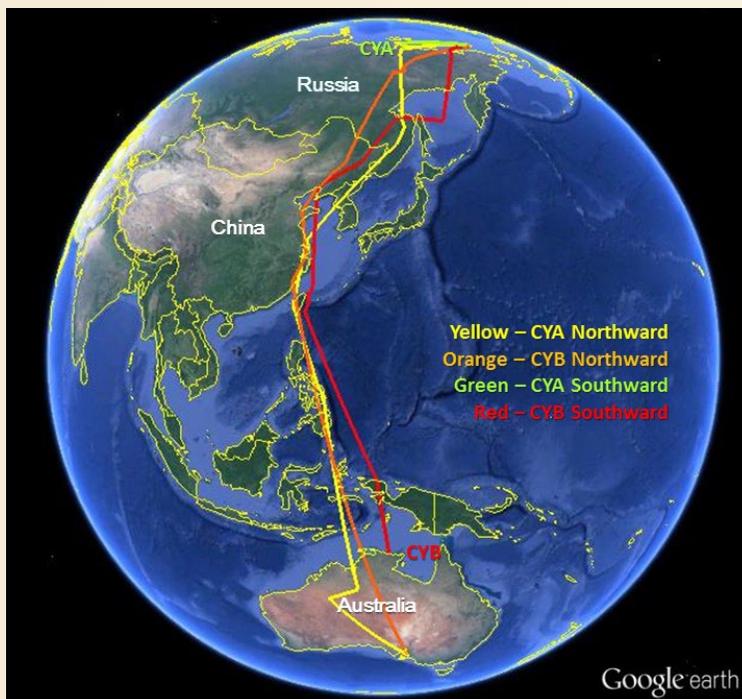
to date. Shorebirds banded in SA have leg flags of orange over yellow on their right leg. Engraved flags allow the identification of individuals. This flagging work seeks to better understand local movements of the birds within the extensive "terminal" southern summer feeding tidal flats and saltmarshes of the GSV, as well as migration through the EAAF. Flag resights of GSV Bar-tailed Godwit have been recorded in Bohai Bay and in Yalu Jiang in China, and Great Knot resights on Kamchatka Peninsula.

With funding support provided through the Australian Government for the NRM Board's Sapphire Coast Icon Project, 10 Microwave Telemetry 5g Solar PTTs have been deployed on Grey Plovers in GSV in SA since 2015. These units have been attached using "leg-loop harnesses" and programmed to a 10 hrs ON/48 hrs OFF duty cycle. Initial PTT deployments in 2015 and 2016 were made at Thompson Beach some 60 km north of Adelaide, though in December 2016, transmitters were deployed on a number of birds at Bald Hill.

Knowledge of Grey Plover migration in the EAAF is limited. Over 600 Grey Plovers have been banded in Australia since 1960, with few recoveries and no Australian-marked birds recorded in the breeding range.

Grey Plovers have demonstrated high site fidelity to locations in the non-breeding areas. Successful northward migration to Arctic Siberia was observed for two SA birds in 2016. Birds used stopover sites on the Chinese coast for over 50 days. From the Yellow Sea, birds were tracked to the Yakutia coast of eastern Siberia. From there, the SA flagged birds flew east to Wrangel Island in the Arctic Ocean. These are the first records of any Australian-marked bird on Wrangel Island.

In a separate Australasian Wader Studies Group and BirdLife Australia project, two Grey Plovers with



Northward and southward tracks of Grey Plovers, "CYA" and "CYB," from South Australia to Wrangel Island.

Photo by Tony Flaherty