

SHOREBIRD STORIES ARCTIC MIGRANTS.



From October to March New Zealand coastal wetlands are home for many thousands of Arctic migrant shorebirds. They spend more than half of their lives in New Zealand but there is nowhere here that they can breed. This they do in the Arctic regions of Siberia and Alaska.



Image, Keith Woodley



Image, Keith Woodley.

The Arctic summer is short but the days are warm, very long and insect food for newly hatched shorebirds is abundant. However the days quickly get shorter and cooler. In the Arctic winter the ground is frozen and daylight hours are few. This is no place for most shorebirds!

So, each year the birds are involved in two epic migrations. Around March/April they fly directly, non-stop, a distance of around 10,000km to the Yellow Sea of China and the Korean Peninsula. After a period of re-fuelling there is another huge journey to the Arctic breeding grounds. These two epic journeys make up the **northern migration**. The route the birds take is known as a **flyway**.

On completion of breeding most species will return along the same flyway on their **southern migration**. Only the bar-tailed godwit flies directly from Alaska to New Zealand and eastern Australia in a single flight. This is a truly amazing journey of 12,000km of non-stop flight, taking eight to nine days.



These juveniles have just made landfall in NZ after their amazing non-stop journey. Their droopy wings tell us of their long flight. They are only four months old!

Shorebirds have been making these journeys for hundreds of thousands of years

The most common Arctic migrants in New Zealand are the bar-tailed godwit/kuaka and the red knot/huahou. There are fossil records of godwit going back 15 million years and red knot have been on the earth for 12 million years.

Over that period, continents have drifted, mountains formed and ice ages have advanced and retreated. Migratory shorebirds have survived all of these changes but are struggling to exist today. Even in the middle of an ice age there would still have been inter-tidal habitat for birds to find food, despite the sea level being as much as 30+ metres lower than now.

Today **habitat loss** is the biggest threat to the survival of migratory shorebirds. The Yellow Sea is an essential re-fuelling stop for them in both migrations. However, in the last 50 years, 70% of the inter-tidal areas have been reclaimed. This process continues today.



Reclaimed mudflat at Saemaengeum, South Korea is now a wasteland. There is no food here for migratory birds but once it supported tens of thousands. Adrian Reigen.

Within the lifetime of the young people fledging birds for The Flock, some migratory shorebirds could be close to extinction

Bar-tailed godwit or kuaka

Maori people have always known that the kuaka is a mysterious bird.

‘Who has seen the nest of the kuaka?’ is a Maori saying emphasising the mystery that surrounded the kuaka.

Now we know why! Kuaka nest in Alaska.

The Tainui people of the Firth of Thames also believe that kuaka helped their Polynesian ancestors find New Zealand. Tradition says that they, and other land birds, were sighted when the Polynesian people were exploring from their Hawaiki homeland. The birds must be flying toward land. A really good reason for following them to discover New Zealand!

It is more likely that the voyagers were following the route of shearwaters, a migratory seabird as they fly much close to sea level. We now know that godwit migrate on a course well to the west of Polynesia and at a height of around two kilometres.

Like the kuaka, those early voyagers had many means of telling just where they were but birds were surely one of them.

SOLVING THE MYSTERY

Following the movements of birds can be done in a few ways. Always you must mark them so that you can recognise them. The first step is to catch them. Luckily shorebirds will roost together when the mud that they feed on is covered at high tide.



While they are feeding you can carefully disguise a long net placed close to where you expect them to roost over the high tide.

Explosive charges can propel this net over the roosting birds. This is a job for experts. The **cannon net** will never be fired if any birds are going to be harmed. Sometimes all the hard work of hiding the net goes to waste. The birds see it and roost somewhere else! But not always!



The net has been fired and the birds are being collected and put into dark boxes. This is less stressful for them. They are quickly banded, measured and released back into the environment.



This kuaka has been **banded** with a metal band on its left leg. Each band has a unique number-letter combination. At the same time other information about the bird, like its weight, is also being recorded.

Should this bird be captured again, anywhere in the world, perhaps the Yellow Sea, its band will tell us where it was first caught.

The kuaka below has **colour bands** on the legs that are easily seen from a distance. Each colour combination is as unique as an engraved metal band .



Even better are **engraved flags** attached to the top part of one leg. The letter combination is easily read using a telescope. The colour of a flag also tells you the country where the flag was attached.



An orange flag tells us these birds were flagged in Australia. Both AU and AV getting their flags in Victoria in 2010.

AU has been seen each NZ summer since 2013 at Omaha Beach. On its northern migration it has also been seen at the same mudflat in South Korea every year since 2013.

Better still is a **data-logger**. This is a small device which has its own battery and records the daily location of the bird for up to two years. All of that stored information can only be looked at if the bird can be caught again.



Data logger being recovered from a godwit in China. Image Adrian Reigen.

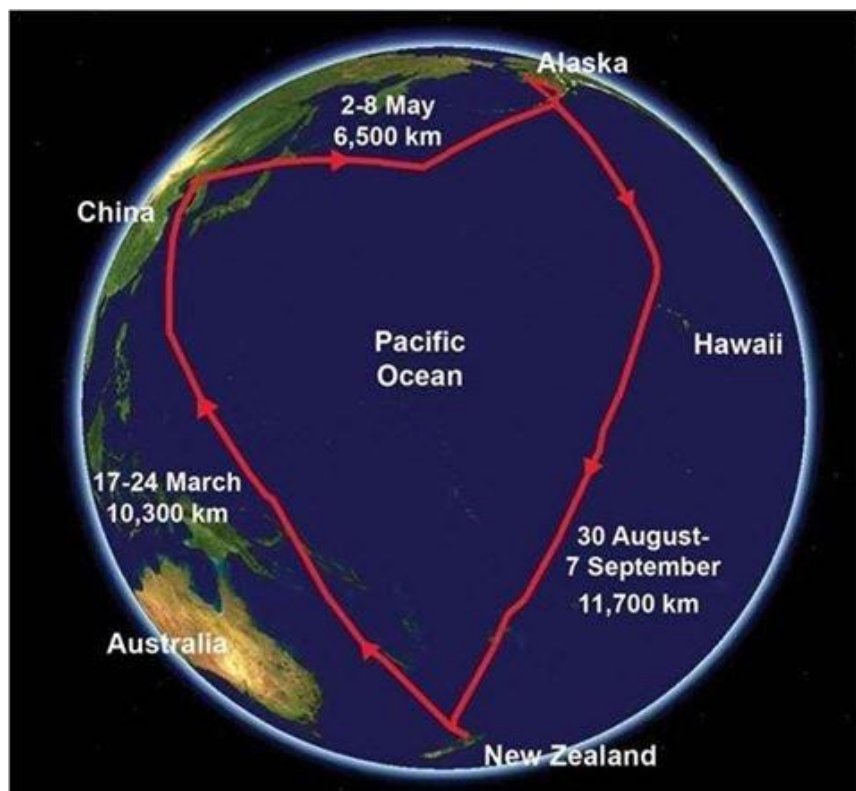
There is one way of knowing just where a bird is at any time but it is a very expensive technology. It is possible to fit a bird with a device that stays in contact with satellites. These are great for tracking birds on migration.

This is E7. She was fitted with a **satellite tracker** at Pukorokoro Miranda in 2007. She is called E7 because that is engraved on her flag. Her entire northward and southward migration, from NZ to Alaska and then back again was able to be followed.



Image, Keith Woodley.

This is the route of her journey. E7's journey confirmed what some scientists had suspected for years. That N.Z. kuaka make the journey from Alaska to New Zealand in one single flight.



Graphic produced by Adrian Reigen.

There are still some secrets to be discovered but scientists have learned a lot about the life of godwits in just the last ten years.

SOME OF THIS INFORMATION IS VERY WORRYING

In New Zealand we have a **census**. It tells us just how many people live here and lots of other things.

Birdwatchers are even more thorough. They census shorebirds twice a year and have been doing this for a very long time. The results from censuses and other sources show that shorebird numbers are falling.

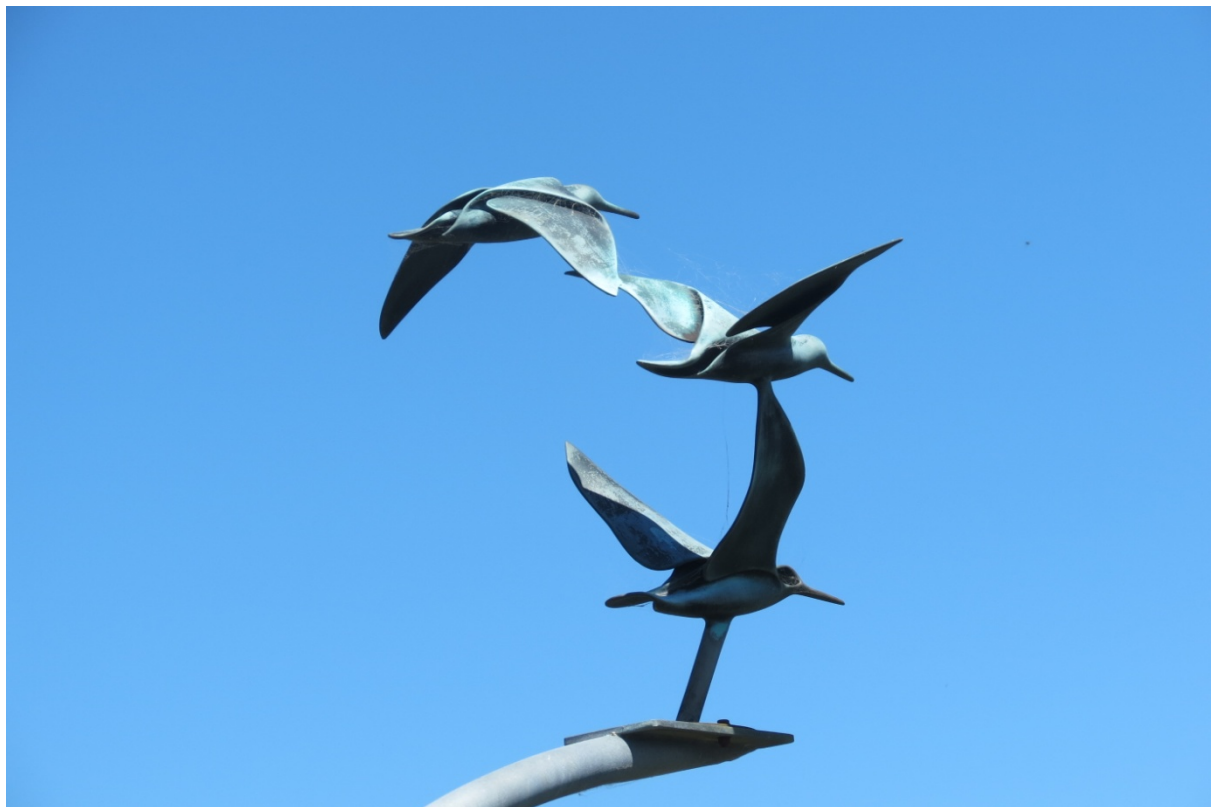
Each year 2% fewer godwits return to New Zealand from their breeding grounds in Alaska. This has been suspected for a long time but was finally confirmed in December 2015. We also know that Australian godwits are declining by double the amount, at 4% each year. Unlike the NZ birds they must use the Yellow Sea for refuelling on both their northward and southward migrations.

In thirty years just a few thousand godwits could be making the migration. They would be **rare** birds and getting close to **extinction**.

New Zealanders have real connection with godwits

Perhaps this is because the country was founded by migrant people from Polynesia and then Europe. Those early journeys would have as challenging in their own way as the godwits amazing migratory flights.

They feature in our literature, poetry and art work.



Sculpture of godwits at Katikati, Bay of Plenty.

They are birds of almost constant summer. When they arrive they bring the promise of warmth and long days. When they leave, chasing summer once more, we know that winter is on the way. Increasingly coastal cities celebrate these messengers of the changing seasons.

They would be greatly missed if they no longer came and went with the seasons.



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