Bar-tailed Godwit: International Traveller.

I'm standing here on some mud flats in Moreton Bay in Queensland, Australia and this is a very place for a very special and unique set of birds. They're migratory shorebirds, sometimes known as waders. One of those birds we're going to investigate today.

It's called the Bar-tailed Godwit because it's got some bars underneath the tail which you can see if you look through binoculars like mine. They are sometimes hard to find, so the easier thing to do is to notice its very long and almost straight bill. That's a very important feature of this bird because it feeds on worms, or what is known in scientific terms as polychaetes. That long bill can go down in the mud so that it can feed on those little polychaetes which are here in the mud behind me.

Now what makes these birds special is that they nest and they up in the arctic circle in Alaska and in Siberia, and every year in September they fly all the way from there down here to Moreton Bay where they spend the summer. And then in April each year, once they've fattened up, they fly all the way back. Now that's a journey, a round journey, of twenty-five thousand kilometres. And these birds live for a remarkable twenty years. These birds, in their lifetime, fly five hundred thousand kilometres.

Let me invite you to imagine you are a Bar-tailed Godwit and you are about to fly north to your breeding grounds up in Alaska and Siberia. To do that you need to put on a lot of weight, almost double the amount of weight you normally carry, in lots and lots of fat reserves. That means you've got to eat a lot more of those polychaetes before you fly to the north.

One of the amazing things about these birds is that before they fly, they're able to shrink their stomachs down, and some of their other internal organs, so there's much more space for the big muscles around their wings and their heart to pump that blood around to make those wings flap and to use those fat reserves as fuel, as energy. And that allows them to fly for up to nine, in some case up to twelve days without stopping, all the way to around Japan, Korea and the Yellow Sea. Where they need to feed up again, put on more weight and then fly north where they find a place to breed.

Now unlike us where we have parents to look after us for many, many years, Bar-tailed Godwits and most other shorebirds tend to look after themselves as soon as they're born. Once the egg has hatched the female Bar-tailed Godwit flies off to nearby mudflats to feed up, to get ready to come back down to Moreton Bay. And then the male follows and within five weeks those young chicks that have been looking after themselves, running around in the tundra are ready to come south.

When the Bar-tailed Godwit is in Moreton Bay, it needs two places to survive: It needs a place to go and rest, called a roost site where it isn't disturbed, and it needs to go on the mudflats to go into the mud with its long bill to find those polychaetes. And both of those places are absolutely important if it is to survive and if it is to put on weight.

Now, all of us like the shoreline as well. We like to go for walks, we like to explore the shoreline and some of us like to take our dogs. But we, and our dogs, if we're not careful, can disturb those birds. And when they're disturbed, they can't eat enough to put on weight, and that places them at great risk when they take their long journeys. So, one of the important things about the shoreline is to make sure that when the birds are there, they're left in peace.

So how do we know all this about the Bar-tailed Godwit? Well we know because in the north, around the Arctic circle, across Asia, along the Queensland coast and the rest of the Australian coast, there are birdwatchers and scientists with their binoculars and their scopes observing the Bar-tailed Godwit and other migratory shorebirds to see what they do. But to find out a bit more about their migratory route and about the birds themselves, we have to catch them and place tags on them.

The first little device we put on is a small metal band that has a number on it and that number is unique in the world for that particular bird. But it's really hard to see so in more recent years we've also put a flag on the leg, a little tiny plastic flag. And that flag has some letters on it. The flag is also coloured. In Queensland, the colour we use is green. But in other parts of the world other colours are used, which tells us where the bird was banded.

The letters are like your name, it's the name that bird has. So whenever you look through your binoculars or your telescope and you see that bird with that coloured flag and you see those letters you know exactly who that bird is and then you can begin to record where it goes.

There's a problem with this if you think about it. That, you need a bird watcher or a scientist to be somewhere along the shoreline to see that bird. So we only know where those birds go, where the birdwatchers go. So, in more recent years we've began to put on small transmitters that tells us all the time where that bird is. They're really tiny, on a Bar-tailed Godwit they only weigh five grams and they're got a little solar panel on the top so that it can charge up and an aerial that goes out the tail of the bird, and that transmitter send a signal up to a satellite that sends a signal down to your computer so that you can track where the bird goes.

And that's how we know where the birds go around here in Moreton Bay and also when they fly north, and the route they take, and how long they take, and how fast they go, and how high they are and how long they stay to feed up on their way to their breeding grounds and then all the way back here to Moreton Bay.

This map shows where two Bar-tailed Godwits that were banded and had transmitters placed on them in Moreton Bay, went in 2019. It's the same route as many other birds like them take. One Bar-tailed Godwit with a transmitter number 64597 and a green leg flag BJV left the Port of Brisbane on the fourteenth of April and arrived in Saga, Japan on the twenty-first of April, having flown seven thousand kilometres non-stop in seven days. It stayed in Japan for twenty-eight days before heading up the Asian coast and then across the Pacific arriving near the community of *Chefornak* in *Kinia* River, Alaska on the twenty-fourth of May, a further five thousand, five hundred kilometres in only five days. So, this bird travelled also twelve thousand, five hundred kilometres all the way from Moreton Bay to its breeding grounds in the far north, in Alaska.

The other Bar-tailed Godwit with its transmitter number 64591 and a green leg flag with the letters AWS left Manly in Moreton Bay on the tenth of April, and arrived in Japan on the sixteenth, having travelled seven thousand kilometres in six days. She stayed there for thirteen days before relocating to South Korea where she spent another thirteen days before heading north. Five days and six thousand kilometres later, she arrived in Alaska a hundred and fifty kilometres north of the other bird, BJV.

So why do we do this, why do we take the time to catch the bird to put small metal rings on their legs, to put identifying flags on their legs and with some of the birds, to put transmitters on their backs? It's to find out where they go. And why is that important? Well, they're declining fast, these birds. Some of the birds

have dropped by more than fifty to sixty percent in the last twenty years. There are now far fewer of them. And why is that? It's because the places they go along the route to go up to breed and when they come back are being taken over by us humans, for our industry for our factories, for our homes. And for our recreation along the shoreline,

So, if we put transmitters on their backs, a few of these birds, we can begin to find out where they go, where are the important places for these birds for their survival. And then we can begin the process or arguing for the conservation of those areas so that these magnificent flyers will survive in perpetuity.