

## SHOREBIRD ANNUAL CYCLE - PART 1

### FIRST LEG OF THE JOURNEY

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Roebuck Bay is an amazing place. Over one hundred thousand shorebirds spend the non-breeding season here. The massive blue grey mudflats contrast beautifully with the deep orange sandy beaches. At the lowest tides there are 175 square kilometres of mud abundant with suitable prey for the shorebirds.

This bountiful food resource helps the birds prepare for their migrations north to their staging areas in the Yellow Sea and their breeding grounds that encompass northern China, Mongolia and southern Russia through to the high arctic.

Migration is an exciting time for the birds, observers can really feel it as they watch the birds just prior to taking off on their journeys. A flock gathered on the mud will call loudly, this will attract more of that species who are ready for migration. The birds will have stopped feeding, will be stretching their wings, jumping and getting 'excited'. And then one bird will decide it is, now! And off they go. The flock will often circle a number of times, calling continuously, and forming into the classic 'vees' and curved lines ready for the long flight north. Watching a flock head off is a genuinely moving experience.

In the previous 4 to 6 weeks the bird's bodies have changed profoundly in preparation for migration. They are now sporting their breeding plumage, in some cases a complete change of feathers, moulting from muted browns and greys to red, gold and black. And their bodies change too, the heart and breast muscles increase in size, the blood composition changes to increase its oxygen-carrying capacity. Contrastingly the bird's digestive organs shrink. As the bird won't eat or drink during the 4-6 day flight there's no need for heavy digestive organs. And, they have put on lots of fat. The fat is the fuel for the journey. Some individuals literally double their body weight.

Why all the change? The first leg of the flight will be anything from 4,500 to 6,500 km. Non-stop. That's why... 4-6 days of continuous flight, flapping all the way. Preparation is key.

During the flight the birds will travel at an average speed of about 56 kph. They will choose the best winds to assist them, and their altitude will change many times over the course of their journey. They will burn fat for fuel, and if the journey is particularly arduous and they use all their fat stores, they may need to metabolise muscle for fuel.

The first leg of their northward migration will usually take them to the east coast of China in the southern or central regions. After a brief stay most birds will move in smaller 'hops' to the northern Yellow Sea, a very different part of the world to Roebuck Bay. They are now more than halfway to their breeding grounds. The Yellow Sea faces many challenges to its health as a good habitat for shorebirds, industrial development and pollution of the mudflats being the two main concerns. However, the Chinese Government have recently put in place some strong measures to protect some areas and we can be a little hopeful. There is still enough mud and food for the current populations of migratory shorebirds to fuel up there for the journey to the breeding grounds.

The journeys these migratory shorebirds take both north and south over the course of a year speaks to the resilience of animals in an ever-changing world and, that our boundaries are artificial and arbitrary for, in truth, we live in a seamless global ecosystem: a world without borders.

In most species immature birds don't migrate for one or two years so, there are always plenty of shorebirds to see in Roebuck Bay all year round.



*Eastern Curlews migrate toward the setting sun © Ric Else*