



Background notes to the RSPB wader migration game

Wading birds find their food in the mud and sand of estuaries and foreshores, and in the soft soil of bogs and wet meadows. Many breed well to the north of the Arctic Circle, where food is plentiful, but summers are short.

At the end of the breeding season, large flocks of dunlins, knots, godwits and other wading birds fly south to escape the approaching Arctic winter. Some go beyond the UK to the coasts of Africa, but many find refuge from the winter around our shores. They feed on the rich variety of creatures in estuary mud – one of the most fertile and productive parts of the planet; the equivalent of 15 mars bars in energy per square metre!

Migration is the key to the survival of these birds. They cannot survive the northern winters, and they can't find enough food to rear their young in the south. Therefore, the birds fly south in the autumn, and north in the spring. The UK lies directly in the path of their migration route, so our estuaries are vital to the survival of these birds.

Many hazards lie in their way. Some, such as storms, headwinds, fog and ice, are natural; others are manmade. Pollution, oil spills, destruction of estuary mud, and disturbance of various kinds, either kill birds or stop them from feeding and resting while on migration.

The RSPB wader migration game follows the lives of dunlins from the time they hatch in the Arctic, on their migration through the UK to Africa, where they spend the winter, and their return journey to the Arctic to breed. The players experience the benefits of migration and the hazards the birds face on the journey, and they add to and subtract from their energy stores as they discover the importance of our estuaries.

The wader migration game passport helps players to record what happens to them on their migration journeys. It also helps to keep vital energy stores up-to-date.

Migration game

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The wader migration game brings the importance of our estuaries into sharp focus:

- they are the wintering grounds of up to 1.5 million wading birds, about 40 per cent of the total north-west European populations
- over 700,000 ducks and other waterfowl also depend on estuaries in winter (estuaries are less likely to freeze than inland waters)
- threats to estuaries include port expansion, marinas, barrages, land claim, tipping, industrial development, sea-level rise and climate change
- increased leisure time for people leads to increased disturbance for birds. Boats, jetskis, wildfowling, birdwatching, horse riding and dog walking all disturb birds when they need to conserve their energy
- all of these activities stop waders and other waterbirds from getting the food and rest they need to survive the rigours of migration.

The UK's estuaries are the service stations of the migration flyways. If these vital feeding and roosting sites are lost, the birds will die.

Wading bird facts:

Dunlins

Numbers have dropped by 50% in the last 20 years because many of the mudflats where they feed have been destroyed.



Migration game

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Over 400,000 dunlins spend the winter on UK estuaries. This is a third of the dunlins that breed in Russia and northern Scandinavia.

Knots

Numbers have dropped by over 25% in the last 25 years, mainly because of disturbance on their feeding grounds. Most of the 200,000 that spend the winter here come from Greenland and northern Canada. They can lose 30% of their body weight on the 4,500 km



(2,800 miles) journey. Safe feeding places on estuaries are vital for their survival.

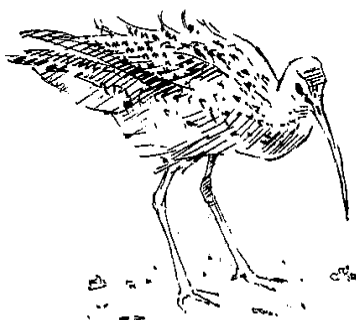
Redshanks

Two thirds of the north-west European population, about 75,000 redshanks, depend on UK estuaries in the winter. Industrial expansion on estuaries has caused a decrease of 25% in the last 10 years.



Curlews

More than a third (91,000 curlews) of the north-west European population spend the winter on UK estuaries. In the Tees Estuary, numbers declined by over 50% between 1970 and 1977. The area lost over 80 per cent of its mudflats in the same period.



Estuary issues:

To the uninitiated, estuaries can appear to be wastelands – great expanses of mud and water, ripe for taming to human needs. Indeed, people have always used estuaries for a range of purposes: fishing, bait-digging, cockle fishing and as playgrounds for sailing and other pursuits to name a few. Although these have temporary impacts on the birds, the damage can be controlled or even reversed.

The development of marinas, barrages, ports and other industry by contrast creates irreversible damage, destroying areas of inter-tidal mud and reducing forever an estuary's capacity to feed birds. Thanks to the work of the RSPB and other conservationists, these threats are now recognised and better regulated than they used to be, but the value of estuaries to wildlife needs to be restated to each new generation, and this is the focus of the Wader Migration Game. The threats are real:

- 85% of the area between high and low tide (the inter-tidal area) in Belfast Lough has been destroyed by industry and land claim
- 90% of the inter-tidal area of the Tees Estuary has been lost to industry and port development
- all the inter-tidal mud has been destroyed in the Tyne Estuary

In recent years, we have become more concerned with two particular threats to estuaries: sea-level rise and climate change.

Britain is still rising in the north and sinking in the south as the pressure from long-melted glaciers still eases. But even the rise in the north is likely to be overtaken by the rising sea levels resulting from the Earth warming up. As the warming seas expand and as more ice melts, estuaries and sandy beaches are squeezed against sea defences, hard cliffs and the rest of the coast. Even when the tide is out, there will be less mud available for feeding.

The RSPB aims to help this situation by encouraging the managed retreat of soft coasts, such as salt marshes into land behind the current sea defences. We are also creating and

encouraging others to create wetlands inland to provide stopping areas for migrant wading birds.

Climate change is seeing an increase in the number and severity of storms. Storms can directly threaten the survival of birds that live in open habitats. Migrating birds can find themselves delayed, blown off course or simply battered in extreme weather. We can't change the weather, but we can help to ensure that these extra storms aren't the final straw for our precious migrant wading birds.

For more information about wild birds and their habitats and how to introduce them into games and learning for children, write to Youth and Education Dept, The RSPB, The Lodge, Sandy, Bedfordshire SG19 2DL, or investigate www.rspb.org.uk/education

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