Barnacle goose migration

Each year, the entire population of Svalbard barnacle geese migrate 3,000 Kilometres (1,800 miles) to spend the winter on the Solway Firth. They fly mostly over the sea, with a brief stop on Bear Island. With the wind behind them, they can do the journey in 36 hours. Arriving at the end of September, their numbers build during October and at WWT Caerlaverock there are 8-10,000 geese on the reserve each day from October to April.

Sir Peter Scott opened Caerlaverock Wetland Centre in 1970, to protect these special geese. In the 1940s there were only 300 birds left in the population, due to persecution. Due to their protection, the population has increased annually to its current total of over 40,000 birds. They can be seen feeding in the fields on the reserve during the day. The geese spend the night roosting out on the Solway Firth mudflats and flight in every morning at dawn.

Amongst this large population, there are a few leucistic barnacle geese. These are white with some grey markings, with black bills and feet. In flight they stand out as ‘white’ barnacle geese. There are currently thought to be eight birds present in the population. The white colour of the feathers is due to a recessive gene which has been passed down through the generations. When Sir Peter Scott first came to WWT Caerlaverock, there was one leucistic barnacle goose and as the population has increased, so have the leucistic birds. These rare birds are seen regularly at WWT Caerlaverock during the winter. There are also two distinctive geese with white necks which are often seen on the reserve. These are snow goose/barnacle goose hybrids. They have the black beak of a barnacle goose and the pink legs of a snow goose, a grey body and white neck.

Some of the barnacle geese are ringed. They have coloured darvic ring on one leg and a metal BTO ring on the other. The coloured darvic rings can be read from a distance and this helps us identify individuals each year and gives us information about their movements. The scientific name for a barnacle goose is Branta leucopsis

In October, WWT Caerlaverock takes part in the annual Wild Goose Festival, held in Dumfries. This unique event celebrates the return of the wild geese to Dumfries and Galloway. The area sees thousands of wild geese wintering annually, including many different geese species, such as Svalbard barnacle geese, pink footed geese, light bellied brent geese, Greenland white fronted geese, greylag geese and Canada geese. The Wild Goose Festival evolved from the Wild Goose Weekend held at WWT Caerlaverock annually. We have worked with local partners to engage with local people and those from further afield, to celebrate the return of the geese through storytelling, arts, music and science. For more information see the website: https://thestove.org/wild-goose-festival/

In April the barnacle geese start their spring migration back to Svalbard. They stop halfway, in Norway, on the Helgeland Islands which are on the Arctic Circle and Vesteralen, which is further north. Here the females feed on grass to build up the energy to lay eggs. Females weight 1.5Kg but an adult male barnacle goose weighs up to 2Kg. The females lay their eggs almost as soon as they arrive back at Svalbard as they have just four months before the snow returns and they have to migrate back to Scotland. Spitzbergen is the largest island in the Svalbard Island Group, and many geese nest here.

There are lots of predators in Svalbard like sea eagles, arctic foxes and polar bears. In the past barnacle geese always laid their eggs on the ground on islands, so ground predators can’t get to them. In the last ten years their behaviour has changed with the weather. Due to climate change and the weather warming, the ice in the Arctic is melting. Polar bears eat seals but as the ice flows are melting, they can’t walk out on the ice to reach the seals. Therefore they have to stay inland and predate on barnacle geese eggs. Barnacle geese have changed their behaviour to nest on cliffs. When they have laid eggs, the adults incubate them for one month. At 2-3 days old the goslings need to feed on the grass at the bottom of the cliffs and they can’t fly so they have to jump off the cliffs. As they are small and fluffy they bounce their way down to the bottom where the grass is. The cliffs can be up to 250 metres high. Arctic foxes wait at the bottom and do take some of the goslings but many survive. The goslings grow very quickly and can fly at 6 weeks old. They spend 3 months feeding, growing and building up their fat reserves so they can migrate at 3 months old, flying with their parents to Scotland in mid-September.