

The species reintroduction programme and the large heath butterfly



The large heath butterfly was once so common on the peatlands of Greater Manchester that it was locally known as the Manchester argus. However, destruction of its peatland habitats in the 19th century forced it into local extinction. Until the summer of 2020 that is.

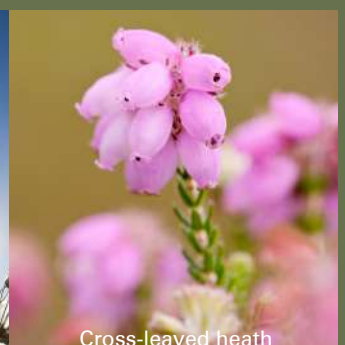
However, before we could even consider the reintroduction of the large heath butterfly, first we needed to recreate its peatland home. The large heath butterfly requires two main plant species; hare-tail cotton grass in which it lays its eggs and is the food plant and winter shelter for its caterpillars, and cross-leaved heath, a member of the heather family that is the main nectar source of the adult butterfly.

Both of these plants are peatland natives, thriving in the wet, boggy and acidic conditions of our peatlands. Thanks to funding from the Veolia Environmental Trust, by the end of the project we will have planted 80,000 of these vital species across six different peatland sites, across and surrounding Greater Manchester.

Thanks to funding from Veolia Environmental Trust and the Landfill Communities Fund, The Wildlife Trust for Lancashire, Manchester and North Merseyside, along with colleagues in the Great Manchester Wetlands partnership, are undertaking an ambitious species reintroduction programme.



Hare s-tail cotton grass



Cross-leaved heath

And now back to that butterfly...

May 2020 saw the first large heath butterfly fly on Astley Moss, on the outskirts of Manchester, for almost 150 years. This was a culmination of years of habitat restoration work by The Wildlife Trust for Lancashire, Manchester and North Merseyside, funding from Veolia Environmental Trust - and six little butterflies from Winmarleigh Moss, just north of Preston in Lancashire.

Also, thanks to Veolia Environmental Trust funding Winmarleigh Moss SSSI has been undergoing a transformation. Already one of the best-preserved examples of a lowland raised peat bog in the region, Winmarleigh Moss was home to a rare surviving population of large heath butterflies.

Summer 2019 saw just six of these pregnant butterflies collected from Winmarleigh Moss to form the donor population for the Astley Moss reintroduction. Following extensive population surveys, under licence from Natural England, and following strict IUCN guidelines, it was deemed that the population could withstand this donation – but these six little butterflies were all that was required.



Round-leaved sundew at Winmarleigh Moss



Sphagnum moss at Winmarleigh Moss

After collection they were safely transported to Chester Zoo who cared for them in a special breeding enclosure whilst they laid their eggs. Shortly after that the caterpillars hatched, before overwintering in tussocks of hare's-tail cotton grass which had been provided for them at the zoo. Finally, in April 2020 the caterpillars pupated.

The pupa were then transported to Astley Moss, where they were housed in a special release enclosure, until one by one they emerged to form the first population of Manchester argus butterflies in Manchester for nearly 150 years!



But that's not where the story ends...

The species reintroduction programme is about building healthy and robust populations of plants and animals right across the region. To that effect other habitats have also been improved and restored with the aim of reintroducing both the large heath butterfly and other lost species.

Risley Moss near Warrington has benefitted from extensive scrub clearance, helping it to remain wet and boggy and thus supporting the plant species that the large heath butterfly requires.

Holcroft Moss in Cheshire, has undergone works to improve an area of rare lowland heathland habitat, supporting species such as the locally scarce bog bush cricket. A peatland specialist, it has been lost from many of its former homes, but a population had managed to survive in the heathland at Holcroft Moss. The habitat improvement works aim to support and bolster the surviving bog bush crickets with the hopes of them becoming a donor population for future species reintroductions.

Little Woolden Moss just to the south of Astley Moss, has benefitted from re-profiling ground works, which have helped to keep precious water on this former commercial peat extraction site, supporting the reintroduction and colonisation of the native peatland plant species that are required to create the habitat for future species reintroductions, as well as restoring the peatland's vital carbon storage capacity.

The North West Rare Plant Initiative (NWRPI)

Veolia Environmental Trust funding has also helped to support the NWRPI. Founded and run by botanist extraordinaire, Josh Styles, this organisation is working hard to return lost or rare peatland plants. Just one of the NWRPI's success stories has been the reintroduction of lesser bladderwort to Astley Moss. This carnivorous aquatic plant seemingly lies quietly in acidic bog pools, before revealing itself to be the fastest creature on earth, responding to and catching its aquatic insect prey in just one 10,000th of a second! Once completely lost to the peatlands of Greater Manchester, there is now an estimated population of over 180,000 plants.

What about Winmarleigh Moss?

Veolia Environmental Trust funding supported scrub clearance in and around the area housing the vital large heath butterfly population. Scrub trees draw vital water out of the peatland and are not part of the natural flora. By removing these it allows the cotton grasses and cross-leaved heath that the butterflies require to flourish.

Not only have we been working to further restore the SSSI site itself, but Veolia Environmental Trust funding allowed us to acquire neighbouring land which is being transformed into a varied mosaic of habitats. Some areas are being restored to lowland raised peat bog, especially an area bordering the current large heath butterfly population to help improve their habitat, some to a buffer zone of lagg fen, and on one area, through funding from Care-Peat an EU Interreg initiative, we have created a pioneering carbon farm, a first in the UK.

The Winmarleigh carbon farm has been created by re-wetting an area of peatland that had been drained for agricultural use in the 1970's. Top layers of turf were removed to reveal the peat below, the water table raised, irrigation channels created, and a permanent cover crop of peat-building, carbon storing, sphagnum mosses planted. The aim being to protect existing soil carbon and sequester further carbon from the atmosphere – a model that could be adopted for the future sustainable, and financially viable, land management of peat soils.



Thanks to funding from Veolia Environmental Trust and our other supporters, the future of our peatlands, and the species that rely on them, is looking bright.