BOOM
BACK ON OUR MAP

Back on Our Map (BOOM) aims to re-engage communities in South Cumbria with their natural environment, by restoring the landscape and reintroducing and reinforcing locally threatened or extinct native species. Led by the University of Cumbria, BOOM is working closely with Morecambe Bay Partnership, and lead partners including the Cumbria Wildlife Trust, Natural England and Forestry England.
The project aims to reintroduce 10 native species, including the hazel dormice (*Muscardinus avellanarius*), small blue butterfly (*Cupido minimus*) and Duke of Burgundy (*Hamearis lucina*) and seven plants. The five on this poster are being reintroduced by project officer, Heather Marples. The other two, Goldilocks aster (*Galatella linosyris*) and Spiked speedwell (*Veronica spicata*), are being reintroduced by Ellie Kent. BOOM has been running since 2019 and has so far reintroduced seven of our 10 species.

Green-winged Orchid
Anacamptis morio

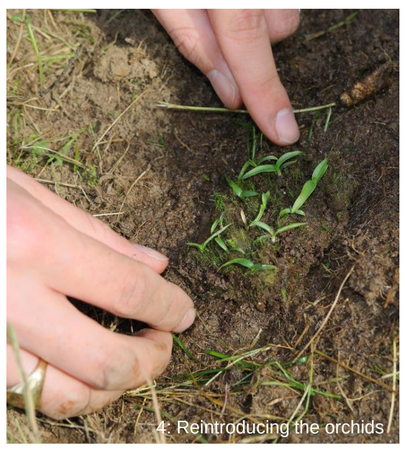
The green-winged orchid is a short orchid of unimproved hay meadows, pastures, coastal grassland and open woodland. It grows in base-rich alkaline soils and prefers sunny conditions. It flowers in May and June and the flower spike carries a cluster of pink to purple flowers (sometimes white) with distinctive green lines on the sepals that give this orchid its name.

BOOM has been working with Kew Gardens in London to propagate green-winged orchids for reintroduction. Kew have been able to identify the associated mycorrhizal fungi by isolating it from the orchids roots. This mycorrhiza has then been cultured and used in the germination process. Seeds were collected from a site near Silverdale, where a record 11,565 flower heads were recorded this year, and sent to Kew to be germinated with the mycorrhiza.


1: Green-winged orchid seeds


2: Green-winged orchid


3: GWO grown at Kew gardens


4: Reintroducing the orchids

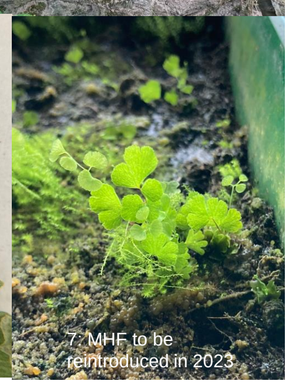
1000 orchids were grown in sterile lab conditions and brought to south Cumbria in September last year. These were planted across four sites around Morecambe Bay and monitored by groups of volunteers. This is the first reintroduction Kew have done where both the orchids and associated mycorrhizae have been reintroduced together. This was a trial and many of the plants didn't survive. We have been working with Kew to understand why this happened and to improve survival rates in upcoming reintroductions.

Kew have also given propagation training to UoC staff and we can now germinate these orchids in our labs in Carlisle. This will vastly increase the number of green-winged orchids we can reintroduce on the project and into the future

Maidenhair Fern
Adiantum capillus-veneris


5: Maidenhair Fern in Cumbria


6: MHF spores


7: MHF to be reintroduced in 2023

The maidenhair fern is an attractive yet delicate fern which is found growing in damp and shady crevices on limestone rocks and cliff faces. It's cultivar is a popular fern to have as a houseplant and are commonly found in garden centres. The few remaining wild populations can be found in the south of England with only four remaining isolated populations in south Cumbria.

Whilst the plants can produce plenty of spores, it requires a specialist habitat to grow and so the population cannot easily expand into new sites. Therefore, BOOM has collected spores from three locations and are growing them on. Currently the largest ferns are the size of a 50p coin and they will be ready for reintroduction in 2023.

Aspen
Populus tremula

Aspen is a locally rare tree in south Cumbria with only 136 known stands. Historic removal of ancient woodland, land use change and grazing pressure are just some of the key drivers of Aspen decline in the UK.

Individual trees are male and female and they cross pollinate by wind. As aspens in Cumbria are so isolated, and predominantly male, cross pollination is extremely rare. Therefore the BOOM project has focused on collecting aspen roots, from which they can grow new suckers. The suckers can be taken as soft wood cuttings, dipped into rooting powder and propagated. These will then be planted out when they are large enough in 2023. With thanks to funding from The Tree Council, we have also managed to obtain additional aspen trees and have so far planted 2000 aspen around south Cumbria with local volunteers.

In May 2022, we found one female clone that had produced viable seed! After sowing some seed, we now have ~150 genetically unique saplings. These trees will be imperative to increase the gene pool of aspen in Cumbria and help make the species more resilient in the future.

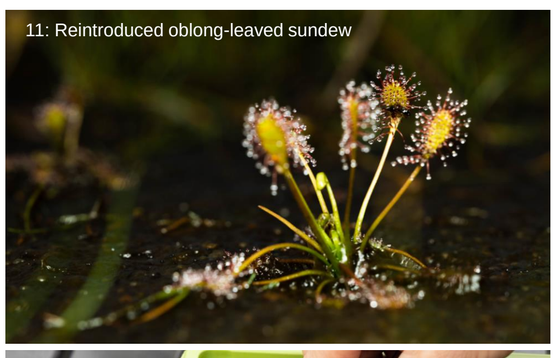

8: Aspen leaves

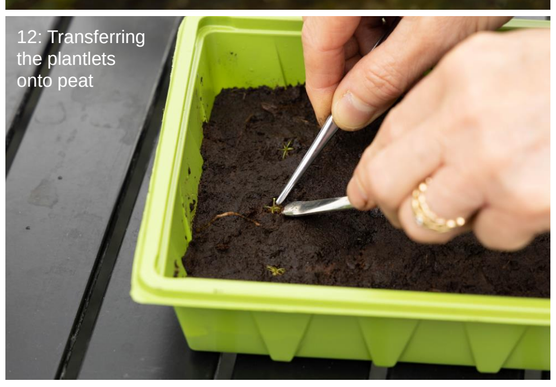

9: Aspen seeds

Great Sundew and Oblong-leaved Sundew
Drosera anglica and *D. intermedia*

Great sundew (*Drosera anglica*) and oblong-leaved sundew (*Drosera intermedia*) are insectivorous plants found on mires and bogs. They have evolved to derive the majority of their nutrient requirement from captured insects to compensate for a nutrient-poor habitat. Following years of draining and afforestation, peatlands are now being recognised as an important sink for carbon. This change of attitude has led to extensive restoration work being carried out to restore and re-wet many of south Cumbria's bogs. As sundews are poor colonisers and only remain in small and fragmented pockets, BOOM has stepped in to propagate and reintroduce both the great and oblong-leaved sundews into locally restored bogs.


10: Great sundew leaf with plantlets


11: Reintroduced oblong-leaved sundew


12: Transferring the plantlets onto peat

BOOM has surveyed donor sites for both species and obtained permission from Natural England to take two leaves from 10% of the total population on the donor site as well as a small section of peat. These leaves were placed in deionised water and left on a sunny windowsill for two months, in which time they produced small plantlets on the lamina of the original leaf. From here the small plantlets could be divided up and transferred onto the peat. The small sundews grew quickly and were ready to plant out in summer 2022. The oblong-leaved sundews even flowered within their first year of growth! Ongoing monitoring of the reintroduced sundews has shown they are successfully catching flies and growing new leaves.

University of CUMBRIA
Morecambe Bay Partnership
Made possible with Heritage Fund

Photo Credits
Heather Marples: 3,4,5,6,7,8,9,10
Peter Howarth: 1,11,12
Julia Sier: 2

Back On Our Map
@back_on_our_map
@BoomCumbria