the species recovery trust

Bramshill - Marsh Clubmoss Habitat Assessment

October 2023

Warren Bottom (HW19)

Background

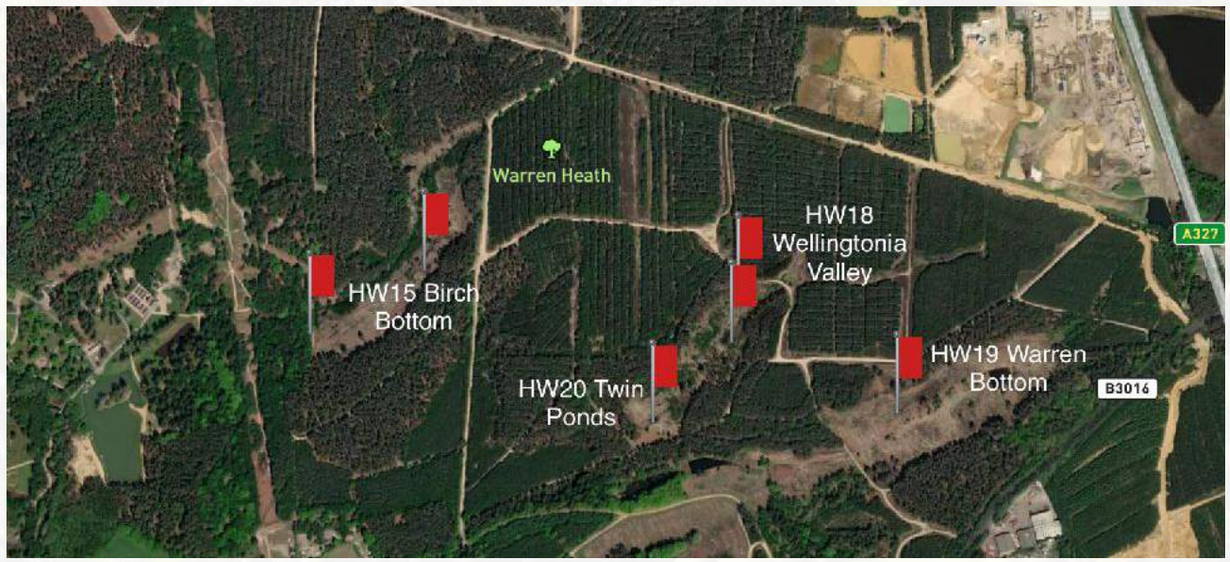
Marsh Clubmoss has formed part of the rare assemblage of plants within the SSSI until relatively recently. The last record for this species was from 2017, to the south of the site in Warren Heath (Birch Bottom).

In 2009, extensive pond and wetland restoration / creation work was completed across Bramshill Forest SSSI. These managed areas were resurveyed in 2017 to assess the status and distribution of rare plants, invertebrates and amphibians. As part of this site-wide assessment, a number of sites were identified as having potential to support Marsh Clubmoss:

- HW18 Wellingtonia Valley: A very good area of ponds and wetland with excellent conditions for both Pillwort and Clubmoss.

- HW19 Warren Bottom: A very high quality large scrape with wide range of conditions and good selection of associate species, this would be perfect for Clubmoss if it was able to colonise.

Our surveys this year (September 2023) have focused on these areas, and our findings are detailed below.



Potential Reintroductions

Warren Bottom (HW19)

The site sits within a mire system at the edge of the recent fire site. This area was assessed in 2009 by Chris Hall, describing the valley as wet heath and mire with scrub and bracken. In winter 2003/04 the valley was cleared of scrub and trees, and some extensive turf stripping was carried out on the central valley sides. This work exposed bare peat and sand, and 5 years later had developed into wet heath/mire with bog pools on the northern side.

In 2017, the site was found to comprise an extremely large scrape, covering a good range of moisture levels. The turf-stripping had revived populations of wet heath and mire specialists, although it was noted that *Pinus sylvestris* and *Molinia caerulea* were starting to colonise.

In 2023, the northern slopes continued to support open wet heath with a mosaic of bare peat, *Molinia caerulea* and *Erica tetralix*. Several associate species of Clubmoss were found in good quantities, including *Drosera rotundifolia*, *Lysimachia tenella*, and *Carex viridula*. Of importance was the abundance of the algae *Zygogonium ericetorum*, which was cloaking the bare peat. This species is thought to play an important role in maintaining moisture levels for the short-rooted Marsh Clubmoss, particularly during drier periods.

This area continues to provide excellent conditions for Marsh Clubmoss, and has inherently maintained wet, open heathland for at least 20 years.

Potential Reintroductions

Wellingtonia Valley (HW18)

As part of the restoration works in 2009, this area was cleared of vegetation and debris, and a network of 7 ponds and large scrapes were created. The follow-up surveys in 2017 found this area supported excellent conditions for Marsh Clubmoss.

In 2023, this area continued to support ponds with shallow sloping edges and wet heath. Pockets of bare peat and clay surround the ponds and most are covered by *Zygogonium ericetorum*. Many associate species indicative of these wet, open conditions were also present, including *Drosera sp.*, *Erica tetralix*, *Sphagnum*, *Molinia caerulea* and *Lysimachia tenella*.

This area continues to support excellent conditions for Marsh Clubmoss, however there is some potential for pine and birch regeneration to encroach and enclose the area.

Birch Bottom (HW15)

Birch Bottom was the last known site for Marsh Clubmoss at Bramshill. Despite remedial management the population was at critically low levels in 2017, when three plants were found. It was considered that without further clearance work these were unlikely to persist. Following forestry operations, this population was lost when arisings were piled on top of them.

In 2023, the extinct site location was found to be overgrown and unsuitable, and in any case further introductions at a site of recent extinction is considered inappropriate.

However, further exploration of the valley uphill and northwards found successive scrapes which hold promise for Marsh Clubmoss introduction in the future. These areas of bare peat were cloaked in *Zygogonium ericetorum*, however no *Drosera* species were found, which may be a symptom of their infancy.

Location of extinct Marsh Clubmoss Site

Scrapes northwards of extinct site at Birch Bottom

Marsh Clubmoss Scoring System

A scoring system has been created to classify the value of each site for introduction. This takes into account ten attributes which are given a score of 1 (present) or 0 (not present). This was undertaken for the sites at Bramshill:

Attribute	Warren Bottom HW19	Wellingtonia Valley HW18	Birch Bottom HW15 (new scrapes)
Management	1	1	1
Associate species	1	1	0
Zygogonium	1	1	1
Bare ground	1	1	1
Long-term persistence	1	1	?
General vibe	1	1	1
Sufficiently wet (hydrology)	1	1	1
Free from Scrub (pine and gorse)	1	0	1
Free from Molinia	1	1	1
Part of a broader landscape	1	1	1
TOTAL	**10**	**9**	**8**

Warren Bottom and Wellingtonia Valley: score highly under this system, and as such are excellent candidates for Marsh Clubmoss introduction.

Birch Bottom: scoring highly in most areas, however long-term persistence is unknown at this stage and further review of the scrapes over the next 2-5 years will determine their suitability.

Management

The sites above have been selected to prevent excessive habitat management requirements. Due to their inherent nature, these habitats have remained open with sufficient bare peat for the last 10-20 years. It is therefore reasonable to expect that these will remain in good condition for Marsh Clubmoss into the future.

Mire restoration proposals (Warren Bottom and Birch Bottom) - proposed introduction areas have been selected to avoid works associated with mire restoration, but would likely benefit from such enhancement.

Management - limited requirement given the inherent nature of wet heath and mires. Some small-scale scrub clearance will inevitably be required. In the absence of grazing, small-scale disturbance may be required on a 5-8 yearly basis, using a heavy-tracked vehicle. Additional shallow scrapes may benefit the populations in the long-term (Wellingtonia Valley).

Conclusions

Warren Bottom and Wellingtonia Valley: excellent candidates for introduction

Birch Bottom: good candidate for introduction, but given the infancy off the scrapes, this area should be reviewed in 2-5 years

The Species Recovery Trust is a charity set up to tackle the loss of some of the rarest species in the UK.

There are over nine hundred native species in the UK that are classed as under threat, with several hundreds more currently widespread but known to be in significant decline. The countryside is now bereft of many species that were a familiar sight a mere generation ago.

A small number of these species are on the absolute brink of existence, poised to become extinct in our lifetimes; our goal is to stop them vanishing.

Our aim is to remove 50 species from the edge of extinction in the UK by the year 2050. In addition we are reconnecting people with wildlife and the natural world through training programmes and awareness raising.









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