

### Landownership and site background

This field is owned and managed by a private landowner. However the site forms part of a wider network of land managed by the Lower Windrush Valley Project. This area is now managed as a nature reserve known as [Standlake Common](#). Section 106 agreements were established in 1990's when gravel pits were dug to create and fund this reserve. All the fields including those outside the reserve are considered in terms of management and are all managed consistently. A management plan is agreed between the LWVP and the landowner in order to ensure that the Nature Reserve is maintained and developed in line with the A. 106 agreements.

This field was in an agri environment scheme between 2012 and 2022 for restoration of species rich semi natural grassland.

Before restoration it had been managed as a meadow for a few years, but was probably only grazed before 2009.

The fields to the north-east are SSSI meadows.

### Restoration activity

Hay was cut on the receiver field in 2013 and it was then scarified x 4 tractor runs finishing with a roll. Hay was cut from the donor field (the SSSI to the north-east) and spread using a muck spreader, then rolled. Sheep were grazed in October-November of 2013, which was a very wet winter. Annual hay cuts started in 2014, followed by aftermath grazing.

### Current management

Current management is an annual hay cut followed by after math grazing. The hay is usually cut mid-late July, although it varies slightly depending on the weather.

Before 2020, sheep were typically on site between October and November. Since 2020, cattle have been used for aftermath grazing instead of sheep and new fencing has been installed.

The management plan outlines the need for continuity with the annual hay cut and aftermath grazing.

### Site information

**Size:** 6.2 ha

**Public access:** In parts

**Phosphorus levels:**

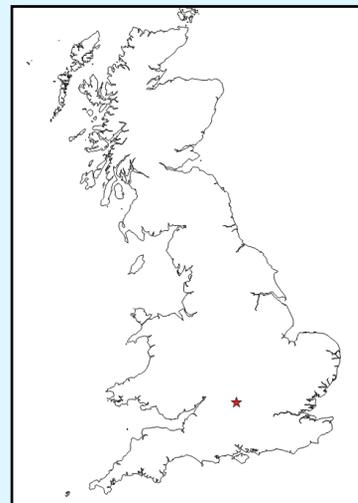
**Soil type and profile:** Clay loam, wet from 80 cm with gravel inclusions

**Flood frequency:** Annual

**Cost of restoration:** ?

**Economics of management:**

**End use of hay:** On farm



### Progress by 2023\*

When FMP first visited in 2015, there were some meadow species including red clover *Trifolium pratense*, meadow buttercup *Ranunculus acris*, hawksbeard *Leontodon* sp, meadow foxtail *Alopecurus pratensis*, cocksfoot *Dactylus glomerata*, plantain *Plantago lanceolata*, oxeye daisy *Leucanthemum vulgare* and goat's-beard *Tragopogon pratensis*. Growth was very lush, and it looked like it needed a cut even in May. No quadrat data were recorded at this visit.

The FMP visited again in 2017 and 2021 and collected quadrat data. Analysis of these data is in Table 1. Soil profiles were also recorded.

## Progress by 2023 continued

Analysis of the results following the 2017 survey found that levels of nutrients on the site were reasonably high. This is reflected in the extensive growth of grasses such as rough-stalked meadow grass *Poa trivialis* (up to 40% cover), tall fescue *Festuca arundinaceae* (up to 35%), perennial rye-grass *Lolium perenne*, cock's-foot *Dactylis glomerata* and meadow brome *Bromus racemosus* (up to 20% cover).

There was also a significant presence of comfrey *Symphytum* sp. in some areas of this field, again indicating a high soil nutrient value, whilst smaller herbs such as oxeye daisy *Leucanthemum vulgare*, were rare on the field. The cover of dandelion *Taraxacum officinale* and plantain *Plantago lanceolata* however, were 20% and 50% respectively, which together with the high cover of dense grasses was limiting the chances for other smaller herbs to establish.

The donor site for this field appeared to be also very grassy and uneven in terms of vegetation and it is possible that the seeds of small herbs such as green winged orchid *Anacamptis morio* and cowslip *Primula veris*, found on the donor site, did not get transported in the green hay. Smaller grasses such as yellow oat-grass *Trisetum flavescens* and crested dog's tail *Cynosurus cristatus* however have established well on the field.

Despite the grassy and lush vegetation growth, the plant community was moving towards an MG4b – Typical *Alopecurus pratensis*-*Sanguisorba officinalis* grassland, according to the MAVIS assessment. Species richness in the quadrats varied from 12 to 19, (av. 16). The Typical MG4b community would have on average 22 species/m<sup>2</sup> so these species richness scores are lower, but that is to be expected for a restoration site.

Ellenberg scores indicating moisture and nutrient availability in the soil, were slightly higher on this field compared to the adjacent Field 2.

## Findings 2021

By the time of the visit in 2021, this field had changed towards a wetter and more nutrient-rich site, according to the Ellenberg indicator scores (Table 1). Species richness had declined slightly by 2 species/m<sup>2</sup>. The functional diversity of the plant species had also moved towards a less favourable ratio, demonstrating an increase in competitors and ruderal species, while the proportion of stress-tolerant plants (slower growing, more typical meadow species) decreased. The dominance of grasses has persisted with increased cover of comfrey *Symphytum* sp. These data all indicate that soil nutrients are too high. Finer grasses were not recorded in the botanical quadrats in 2021, and small herbs were also very limited apart from localised mass-germination of Lesser hawkbit *Leonthodon taraxacoides*. Meadowsweet *Fillipendula ulmaria* has started spreading across the field, but the number of plants and sizes of clones are still very small. The vegetation community is most closely aligned with MG4c and MG15b – both sub-communities dominated by grasses, found towards the wetter end of the hydrological gradient.



**Table 1. Summary of the botanical data collected in 2017 and 2021**

	2017	2021
Ellenberg F (moisture tolerance)	5.34	5.62
Ellenberg N (fertility)	5.32	5.8
Ellenberg R (Reaction)	6.28	6.48
Species/quadrat (mean and range /1 m x 1 m)	16 (12-19)	14 (12-16)
NVC (top 2 MAVIS subcommunities)	MG4b	MG4c MG15b



*A-Horizon*

0-20 cm – black-brown silty loam, well structured

*B-Horizon*

20-60 cm clay loam, a lot of iron and signs of gley

60-80 cm – heavy clay loam, a lot of gley and iron, saturated

80-100 cm – orange clay, wet, gley, singular gravel inclusions.



**[\\* A summary of the data collection and analysis methods used is available here](#)**

**Table 2. Restoration progress**  
**Yellow highlighted figures show where Field 1 is on the scale of restoration progress.**

Field 1	Progress score 2021				
	1 Poor progress	2	3	4	5 very good progress
<b>Average scores from five botanical quadrats per field. Calculated in MAVIS</b>					
<b>Species richness</b>	<8	8 to 12	13-15	16-20	>20
<b>NVC similarity score</b>	<50%	50-55%	55-60%	>60%	>60%
<b>C:S ratio</b>	1.65	1.39	1.23	1.1	1.09
<b>S:R ratio</b>	0.67	0.79	0.81	0.89	0.93

### Management recommendations

This field is showing good progress towards a more species-rich meadow. There are only 1100 ha of ancient floodplain meadow left in England and Wales, so this is a very important part of increasing this very rare plant community.

However this field lies on heavy, clay soil. Any gravel layer is deeper than 100 cm (maximum depth reached while augering the soil) although some evidence of gravel shards was observed at a shallower depth. This type of soil will tend to support a more grassy plant community. The current management of a hay cut and aftermath grazing should be continued, but hay cuts should be taken promptly (end June) and in years with heavy floods and a year after, double hay cuts could be considered (June/September) to reduce the soil nutrient level and density of grasses.

It is recommended to continue with occasional monitoring, repeating these quadrats if possible every 2-3 years.

