

Landownership and site background

This field is part of a mixed arable and livestock (beef) farm, in private ownership. It has always been managed as a meadow and never been ploughed. Fertiliser was added in about 1997, but not since. It has been in a stewardship scheme since 2010 for restoration of species rich grassland (HK7).

The family wanted to increase the number of wildflowers and grasses, so the field which would otherwise be cut for silage, is being less intensively managed. Hay is used on the farm and also sold for horses elsewhere, where it is well regarded.

Restoration activity

A seed mix was sown in 2010. The advice was to hard graze, scarify in September (harrowed to create some bare earth) and then spread wildflower seed mix. Commercial seed was used.

Current management

This field tends to be cut in August, producing 800 small bales. However some years it is just grazed (extensively, not hard grazed) and sometimes spring grazed to reduce rank vegetation.

The cattle are put on early and removed when the soils become wetter.

Since 2017 there have been a couple of years when it has just been grazed.

This management is producing nice short, sweet smelling and palatable meadow hay and the yield is consistent. The owner feels that the quality is improving, it used to be full of stemmy rank vegetation, now is short meadow hay.

It is typically grazed from September until mid-December, depending on the weather. Animals come off when it gets too wet underfoot. 10 bullocks are used and moved between 4 enclosures every 2–3 weeks. This field is one of the 4 enclosures. No fertiliser or herbicides are used and the field is treated as organic.

Site information

Size: 3.3 ha

Public access: No

Phosphorus levels:

Soil type and profile: Sandy loam, gravel at 60 cm

Flood frequency: Wet soil in winter, but does not receive flood water every year. Flashy when it does flood, and free draining. Occasional flood from STW

End use of hay: On farm and sold for horses elsewhere



Progress by 2023*

The FMP visited in 2017 and 2021. At both visits, 5 quadrats were recorded and soil profiles were assessed in 2017. Results are shown in Tables 1 and 2.

In 2017, the vegetation on the field was short and sparse, including grasses. The total species richness on the field wasn't particularly high although the nutrient level and soil wetness Ellenberg values were low (Table 1). Despite this, grasses including perennial rye-grass *Lolium perenne* and Yorkshire fog *Holcus lanatus* were abundant (10–20% cover). The presence of widespread bulbous buttercup *Ranunculus bulbosus* indicated that the soils are relatively dry but the dominance of dandelion *Taraxacum* sp (up to 60% cover) suggested that there was quite a lot of bare ground, enabling easily-dispersing species to germinate.

Target meadow species like common knapweed *Centaurea nigra* and tufted vetch *Vicia cracca* were spreading very slowly.

Table 1 Summary of the botanical data collected*

	2017	2021
Ellenberg F (moisture tolerance)	4.96	5.1
Ellenberg N (fertility)	4.72	5
Ellenberg R (Reaction)	6.24	6.34
Species/quadrat (mean and range /1 m x 1 m)	13.4 (12-16)	22 (17-26)
NVC (top 2 MAVIS subcommunities)	MG7D MG6b	MG4a MG4T

Progress continued

Calculations in MAVIS to determine best fit to the National Vegetation Classification (NVC) showed that two main plant communities were similar to that on Long Meadow. These were MG7D - *Lolium perenne* leys and related grasslands, *Lolium perenne*-*Alopecurus pratensis* grassland and MG6b - *Lolium perenne*-*Cynosurus cristatus* grassland, *Anthoxanthum odoratum* sub-community.

By 2021, this field was now occupied by a plant community most similar to the drier species rich Burnet floodplain meadow community: MG4a *Dactylus glomerata* subcommunity of Burnet floodplain meadow (*Sanguisorba officinalis* – *Alopecurus pratensis*). This is unsurprising as the Ellenberg indicator values also confirm that the soils are relatively dry and of low fertility (Table 1). The plant species diversity has substantially increased since 2017: from an average of 13 sp/m², up to 22 sp/m². The functional diversity of the plant community is also good.

This field is in good condition and moving progressively towards a good example of a successful floodplain meadow restoration (Table 2).

Table 2. Restoration progress*

Yellow highlighted figures show where Langley's Lane Meadow Field 2 is on the scale of restoration progress by 2021.

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

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



Soil profile recorded in 2017

Orange-brown sandstone colour along entire profile

A-Horizon

0-10 – organic silty sandy loam

B-Horizon

10-50 cm – sandy loam

50-60 cm – sandy loam, wetter layer with increasing amount of clay

C-Horizon

60-80 cm – sand with little clay and approx. 40% gravel

Management recommendations

This field is such well drained sandy soil that the plant communities of MG4a or MG5 are a realistic restoration target. There are several typical species of grasses and forbs which have already established on the field, but more species could be easily accommodated to substitute the currently dominating dandelion cover. The low cover of grasses and low nutrient levels are advantages for new species to establish. Target sowing of seeds or planting plug plants of such species as great burnet *Sanguisorba officinalis*, ladies bedstraw *Galium verum*, devil's-bit scabious *Succisa pratensis*, meadowsweet *Filipendula vulgare*, cowslip *Primula veris* and glaucous sedge *Carex flacca*, would be good to increase the species diversity.

Keep an eye on stocking levels in wet conditions and remove the animals when the soil becomes too damp.