

Landownership and site background

The fields have been owned by the farming family since 1983. Before 1983 the fields were ryegrass, fertilised and cattle grazed with some haylage making. There are 5 fields in total, 4 targeted for restoration and one an existing species rich meadow. The field nearest to the road entrance probably had the most fertiliser applied as is closest to the entrance.

There is an HLF agreement. The requirement here is for a 10 cm sward height over winter. They tend to graze the fields quite hard over winter. The existing meadow is under a maintenance option. The other 4 fields are under a restoration option now. Whilst the HLS did not instigate the restoration, it does make it more viable to manage the meadows in this way. It probably wouldn't be economic without the agreement.

The family also have a farm in Yorkshire which has sheep and cattle so they have a hill farm and a lowland farm with wildflower meadows on the Yorkshire farm as well. Sheep were typically brought down from the Yorkshire farm to overwinter along the Thames, and the family used to also graze their own cattle on the fields. Cattle are no longer owned by the farm, but they still bring sheep down from Yorkshire in some years.

The family wanted to restore meadows on their farm. It is a farm aspiration to keep managing these meadows. They have a sense of pride about them, they enjoy them, and they are good for the animals

Restoration activity

Restoration was done using their own time/funds, not through the HLS agreement. From 2000, they stopped inputs on these fields. Between 2002 and 2004, they took a fresh cut hay from the old meadow and spread it to the other 4 fields.

Green hay was picked up with a loader. The receptor fields were hard cut, green hay was spread and then they were grazed. Green hay was taken from the species rich meadow in 2002, 2003 and 2004, taking approx. 10% of hay each year.

Site information

Size: 26 ha across 4 different fields

Public access: None

Phosphorus levels: Not known

Flood frequency: The fields flood regularly.

There is a scrape area in one of the fields which retains water.

Cost: Low cost. Used on-farm machinery and green hay

End use of hay: Use on own farms and some is sold



Current management

All the fields have been hay cut and aftermath grazed ever since the restoration activity started. They tend to cut mid-late July, although have missed a couple of years hay cuts (e.g. 2007 when it was too wet).

Docks and thistles are sometimes spot treated. They do have a derogation to undertake some spraying and also to hand-pull ragwort.

They would sometimes like to cut earlier if there is a suitable weather window, but it isn't usually a problem. They made haylage one year.

The grazing is now being let on these fields instead of using their own animals. The family use most of the hay from these fields on the farm in York. The quality is good, and it is good for the animals.

Some of the hay is sold as well, but not at a premium. They don't always get the reserve price for it and it is not sought after. Mostly it is kept for their own use.

Table 1 Summary of the botanical data collected (quadrats collected from 2 fields)

	Field 1	Field 4
Ellenberg F (moisture tolerance)	5.8	5.26
Ellenberg N (fertility)	5.68	4.62
Ellenberg R (Reaction)	6.34	6.22
Species/quadrat (mean and range /1 m x 1 m)	13.6 (11-17)	19.8 (18-21)
NVC (top 2 MAVIS subcommunities)	MG15b MG4b	MG4b

Progress by 2021*

Field 1 is not very species rich, with 13.6 sp/m² on average. Grasses dominate in the sward, and the functional plant diversity (ratio between competitors, stress tolerants and ruderal species) is out of balance. However, the NVC similarity scores were calculated to be over 60% for the MG4 Burnet floodplain meadow (*Sanguisorba officinalis* – *Alopecurus pratensis*) grassland sub communities (MG4b and MG4c) as well as MG15 Cuckooflower grassland (*Alopecurus pratensis*-*Poa trivialis*-*Cardamine pratensis*). MG4c and MG15 are grass-dominated communities, which form at the wetter end of the hydrological gradient on floodplains. High fertility and soil moisture in Field 1 is indicated by higher Ellenberg scores (N=5.68, F=5.8).

Field 4 is slightly drier (F=5.26) and substantially less fertile (N=4.62) than Field 1. This is reflected in the higher species richness (average 19.8 sp/m²). Similarity scores with MG4b (typical) and MG4a *Dactylus glomerata* dry subcommunity of MG4 type, exceed 70% suggesting a very good likeness to the plant communities found on ancient floodplain meadows. The functional diversity is well balanced, having C:S and S:R ratios again similar to ancient meadows.

Field 3 was surveyed on a walk-through basis, no quadrats were collected and 24 species were recorded. Some of the indicator species recorded (meadowsweet *Filipendula ulmaria*, knapweed *Centurea nigra* and yellow rattle *Rhinanthus minor*) indicate some restoration progress. The dominance of grasses such as false oatgrass *Arrhenatherum elatius*, meadow barley *Hordeum secalinum* and cock's foot *Dactylis glomerata* suggest that the field has well drained but quite fertile soils.

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



Management recommendations

Field 4 will continue to develop a more mixed and species rich plant community under a regular annual hay cut and aftermath grazing.

Fields 1 and 3 would benefit from occasional (especially in the years with floods) double hay cuts followed by aftermath grazing (cut in June and again in September if weather conditions are suitable).

