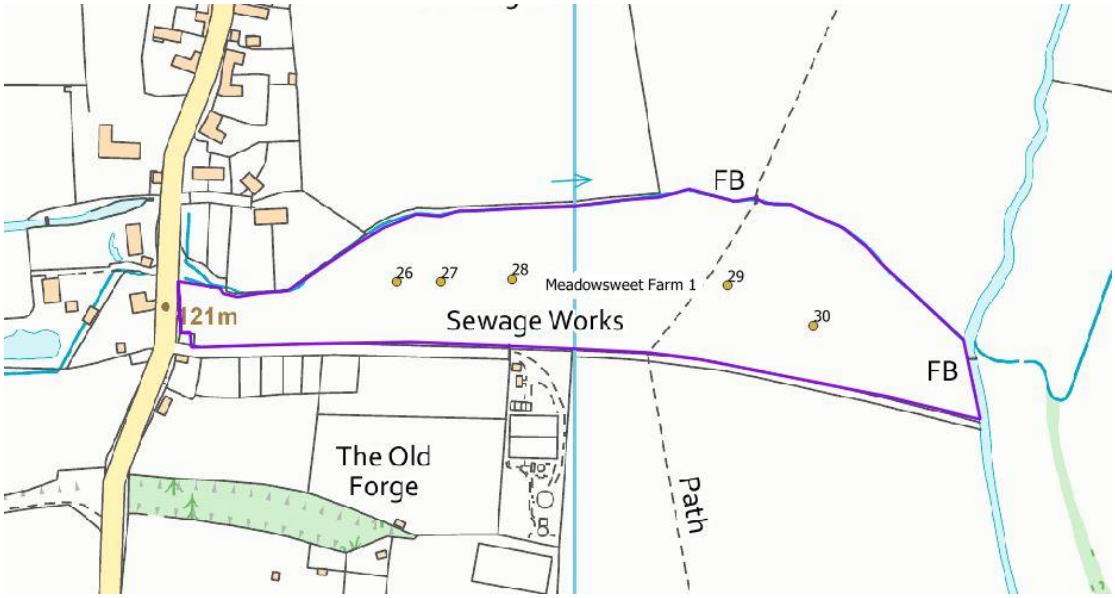
Site Visit Assessment Form –Meadowsweet Farm Field 1 - Long Meadow (North Wroxton) Oxfordshire



The dots on the map shows the location and reference number of quadrats (1 x 1 m^2 areas) surveyed for plant species.
The form records survey results collected from various site visits, and includes feedback following interviews with site managers.
Red text indicates 2021 additions

Site Name Long Meadow Meadowsweet Farm	**Grid Ref** SP42430246	**County** Oxfordshire	
River Sor Brook (Cherwell)	**Ownership** Private	**Designation** None	**Size (ha)** 3.26
Dates for surveys 17th May 2017 5th July 2021	**Meeting with** Owner Interview 30th March 2022	**Managed by** Owner	
Management and History			
Agri environment agreement			
AG00305072 HK7 (started 2010) Restoration of species-rich, semi-natural grassland Seed mix sown 2010. *ISA survey 07/2013: Green result. Species diversity low in certain areas following sowing of wildflower seed. Monitor over time, should increase with cross grazing between fields. During this visit it was noted that positive indicator species were infrequent, but it has only been a few years since the wildflower seed was spread across the field. The sward has obviously been well grazed with an open structure, limited build-up of thatch and weed cover was low, other than a flush along the hedgerow following recent laying.*			

G02 Semi-improved grassland. Sow native seed mix.

The field has been in the family a long time and they wanted to increase the numbers of flowers and grasses. It has always been a meadow.

There is a STW nearby with a sewage main under the site, which is quite shallow, so the field can't be dug up. It has never been ploughed. Fertilizer was added about 20 years ago.

In 2022 – still in HLS, has been rolled over for a couple of years and the owner will be asking if this can happen again. Plans to continue with HLS as long as possible. May try and collaborate with neighbours in the future to try and increase income from ELM.
HLS requires hay to be cut after mid-July.

Most of the hay is used on the farm, some is sold for horses elsewhere.
Meadowsweet Farm has these two meadows, 2-3 fields of silage and some arable fields. If owner was more commercially focussed, these meadows would also be cut for silage. Cutting a month earlier (mid-June) would be of interest if the material could be wrapped as silage or the weather was kind for hay making – it would make more nutritious hay. However cutting mid July also works within the system, there is plenty of hay for the farm needs.

Current management

Tends to be cut in August, producing 800 small bales. Not always hay cut sometimes just grazed (extensively, not hard grazed). Sometimes spring grazed. Put cattle on early and remove. Tend to be making hay into July/August. Hay is used and also sold to horse people, locally (horse people like the local hay).

Long Meadow is either hay cut and grazed, or just grazed. Since 2017 there have been a couple of years when it has just been grazed.
There is also some grazing in the spring to reduce rank vegetation. This management is producing nice short, sweet smelling and palatable meadow hay. 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.

Typically grazed until mid-December, depending on weather. Animals come off when it gets too wet underfoot.

No fertiliser or herbicides are used and the field is treated as organic.
Grazed typically from Sept to mid-December depending on the weather. 10 bullocks are used and moved between 4 enclosures every 2-3 weeks. This field is one of the 4 enclosures.

Restoration

Technique used/Dates

Restoration advice was to hard graze, scarify in September (harrowed to create some bare earth) then spread wildflower seed mix from NE. Have the seed mix spec. Done in Autumn 2009.

Hydrology Flooding regime Water management Soil-water levels (indicated by auger hole/any other data)	Doesn't flood every year, but lies wet in winter. Floods tend to come and go very quickly. Flashy, free draining. STW does sometimes result in flooding in the meadow.
Historical information	
Current site interest	Attach excel spreadsheet for botanical data

Botanical survey 2017

The vegetation on the field is short and sparse, including grasses. The nutrient level and soil wetness are not very high, according to Ellenberg's indicator values (N=4.72; F=4.96). Despite that, grasses such perennial rye-grass *Lolium perenne* and Yorkshire fog *Holcus lanatus* are still in high abundance (10-20% cover). Widespread bulbous buttercup *Ranunculus bulbosus* supports the view that the field is relatively dry. Dominance of dandelion *Taraxacum* sp (up to 60% cover) on the field shows an availability of ground surface for easily-dispersing species, while target meadow species like common knapweed *Centaurea nigra* and tufted vetch *Vicia cracca* are spreading very slowly, and the total species richness on the field wasn't high. Calculations in MAVIS to determine best fit National Vegetation Classification (NVC) community showed two main types: MG7D - *Lolium perenne* leys and related grasslands, *Lolium perenne-Alopecurus pratensis* grassland and MG6b - *Lolium perenne-Cynosurus cristatus* grassland, *Anthoxanthum odoratum* sub-community.

Botanical survey in 2021 was carried out by Irina Tatarenko

Field 1 is now occupied by an MG4a *Dactylus glomerata* subcommunity of Burnet floodplain meadow (*Sanguisorba officinalis – Alopecurus pratensis*). This is unsurprising as Field 1 is drier compared to Field 2. Ellenberg indicator values also confirm that soils in Field 1 are less wet and less fertile (Table 1). Plant species diversity has substantially increased over last four years: from 13 sp/m^2, in average, up to 22 sp/m^2. 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).

Phosphorus levels	Not known
Soil profiles	

Soil at Quadrat 26

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

Site manager aspirations/objectives

Species rich meadow through agri-environment scheme to deliver objectives.

Management recommendations

This field is such well drained sandy soil that the plant communities of MG4a or MG5 could be a 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 there to substitute dominating dandelion cover. The low cover of grasses and low nutrient level 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 increase the species diversity.

Keep an eye on stocking levels in wet conditions and remove the animals when the soil becomes too damp. Don't panic about the dandelions. In some years some species dominate more than others, it will likely be different next year.

Consider adding further propagules when the opportunity becomes available. There aren't any floodplain meadows anywhere near Meadowsweet Farm according to the

FMP map, but if there are, then green hay ios cheaper and possibly more effective. Alternatively brush harvested seed is good to use if you can.

Table 1	**Meadowsweet Farm**			
	2017	2021	2017	2021
	Field 1		Field 2	
Ellenberg F (moisture tolerance)	4.96	5.1	5.12	5.46
Ellenberg N (fertility)	4.72	5	5.12	5.1
Ellenberg R (Reaction)	6.24	6.34	6	6.14
Species/quadrat (mean and range /1 m x 1 m)	13.4 (12-16)	22 (17-26)	14.4 (12-19)	20 (16-28)
NVC (top 2 MAVIS subcommunities)	MG7D MG6b	MG4a MG4v2	MG7D MG7C	MG4v2 MG4b

Table 2.

Field 1 Long Meadow 2021	Score of success/progress				
Measure	1 Failure	2	3	4	5 Success
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