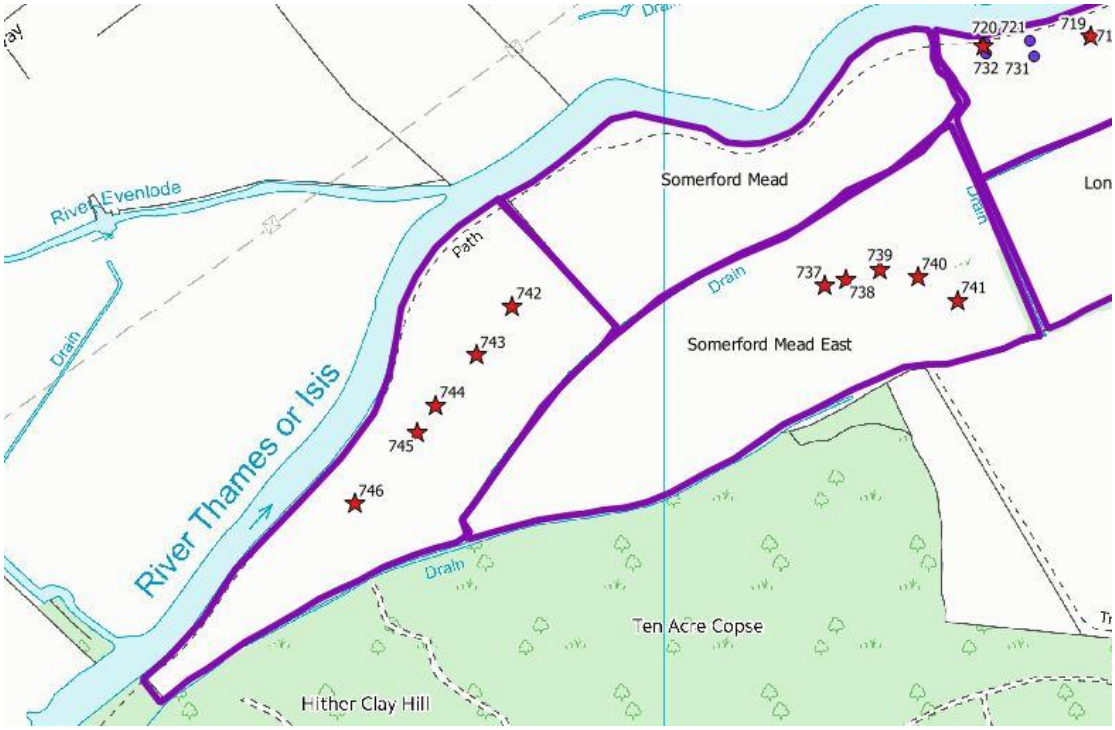
Site Visit Assessment Form – FAI farms, Oxfordshire Somerford Mead East and West (2018)



Site Name Somerford Mead East	**Grid Ref** SP461096	**County** Oxfordshire	
River Thames	**Ownership** FAI farms	**Designation** None	**Size (ha)** 8.85
Date 26th May 2016 May 2018	**Meeting with** No one No one in 2018	**Managed by** FAI Farms	
Management and History			
Agri environment agreement			
AG00340415 HK7			
Current management			
Hay cut planned for 2016. Planned to rotate grazing and hay cut			
Restoration			
Technique used/Dates			
Green hay spread from Pixey in October 2015, following by light grazing (sheep?) The restoration fields on FAI Farm owned land cover four historic floodplain meadows which were previously used as pasture. Long Field and The Eye are situated next to the river Thames, across the river from Yarnton Mead SSSI. The restored and species-rich Somerford Mead has a short common border with Long Field and The Eye, and with Somerford Mead East; the latter being added to the restoration project in 2015.			

The other two fields, Long Meadow and Hagley are both located further away from the river. They are most likely affected by the neighbouring field called The Flushes, which has groundwater seepage and saturated soil.

The restoration sites were botanically surveyed in 2012, the year after strewing green hay (McDonald, 2012). The sites were resurveyed in 2013. The quadrats recorded in 2012 were re-found with reasonable accuracy and re-recorded with a highly accurate differential GPS. Some of the quadrats recorded in 2012 appeared to be on the track in 2013, so the closest feasible areas were surveyed instead.

Hydrology	Floods regularly, groundwater movement through gravels. Drier towards river as bank raises slightly. Water drains towards the back (southern) ditch.
Flooding regime Water management Soil-water levels (indicated by auger hole/any other data)	

Historical information

None known

Current site interest	Attach excel spreadsheet for botanical data

In 2016, the vegetation was closest to NVC MG6a. The species richness varied from 4 species/m^2 in the wetter areas (possibly an ancient channel, where tall fescue *Festuca arundinacea* dominated), up to 15 species/m^2 in the drier areas of the field. The presence of good meadow-indicator species such as common knapweed *Centaurea nigra,* Autumn hawkbit *Leontodon autumnalis,* selfheal *Prunella vulgaris,* meadow buttercup *Ranunculus acris,* bird's-foot trefoil *Lotus corniculatus* and ribwort plantain *Plantago lanceolata* shows that even just a year after strewing green hay on the field, a good meadow flora is establishing. Even though the Dicot/Monocot ratio is low at only 0.75, the high diversity of the grasses with a low percentage cover, suggests that there are good chances for the Dicot species to germinate and establish well. The relatively low level of soil fertility (Ellenberg score N=5.06) along with high pH values (R=6.1-7.0) mean there is excellent potential for a successful restoration of a diverse meadow community on the site.

Somerford Mead East (SME) was seeded in 2015, the 2016 botanical survey showed average species richness as 10.8 species/m^2. It was oversown in September 2017. Both fields were scarified before overseeding & drilled in the first week September. Management was then:

Aftermath grazed. Lightly grazed in autumn. Extensive winter flooding.

By 2018, species richness improved up to 15species/m^2. The plant community is still very similar to MG6a (*Lolium perenne-Cynosurus cristatus* grassland, typical sub-community) as it was in 2016. However, the similarity with MG4b has increased to

58.6%. The field is still very grassy, but the dominant grass species have shifted from Yorkshire fog *Holcus lanatus* and tall fescue *Festuca arundinacea* in 2016, to meadow brome *Bromus commutatus* in 2018. Lesser spearwort *Ranunculus flamula* and creeping buttercup *R. repens* appeared among the dominant species in 2018, while meadow buttercup *R. acris* has declined substantially. This change in ratio of three meadow species of the buttercups indicates an increase in height of the groundwater table, even though the Ellenberg indicator score for the soil wetness doesn't show a difference. Reed sweet grass *Phalaris arundinacea* and amphibious bistort *Persicaria amphibia* which were recorded on the plots in 2018, also point towards an increase in wetness of the soil moisture regime.

Ellenberg's indicator scores showed some increase in soil fertility. Fertility increases are most effectively controlled through taking an annual hay cut towards the end of June. If fertility rises are not controlled, grasses will continue to dominate and the herbs that have become established will decline.

Somerford West (SMW), quadrat survey in 2018 only.
This field was over-seeded in September 2017 on harrowed stripes where a commercial seed mixture was applied. Both fields were scarified before overseeding & drilled in the first week September. Management was then:

No aftermath grazing 2017. Lightly grazed in late autumn. Extensive winter flooding.

In 2018, the species richness varied from 13 to 16 species/m^2. Grasses including the annual Bromes: meadow brome *Bromus commutatus* and smooth brome *B. racemosus* dominated the plant community across the field at 50-80% cover. Meadow buttercup Ranunculus acris, creeping buttercup *R. repens* and dandelion *Taraxacum* appeared as co-dominants with cover up to 20%. Two species from the sown seed mixture were noted as successfully established (meadowsweet *Filiendula ulmaria* and meadow *vetchling Lathyrus* pratensis). The best fit NVC community was MG4b with a reasonable confidence of 58%. Un-sown stripes remained mainly grassy.

Phosphorus levels	14.8 mg/l^{-1} in 2010
Soil auger photo and findings	None taken

Site manager aspirations/objectives

A more species rich meadow as part of the HLS objectives. Also need somewhere to summer graze, hence the rotating hay cut.

Management recommendations

An annual hay cut would be better for the species diversity if alternative grazing areas can be found from April-June.

	Somerford Mead East 2016	SME 2018	Long Field	SMW 2018	The Eye	Long Meadow
Ellenberg F (moisture tolerance)	5.56	5.52	5.5	5.05	5.77	6.2
Ellenberg N (soil fertility)	5.06	5.4	5.7	5.68	5.7	6.2
Ellenberg R (pH)	6.32	6.7	6.3	6.98	6.17	6.0
Species/quadrat (mean/1 x 1 m^2 and range)	10.8 (4-15)	15 (12-17)	16.8 (10-23)	14.2 (13-16)	12.7 (10-16)	12.8 (8-16)
Ratio dicots-monocots	0.75		1.26		1.1	1.07
NVC (top 2 MAVIS subcommunities)	MG6a MG6	MG4b MG6a	MG6a MG6	MG4b MG9	n/a not enough quadrats	MG10b MG10