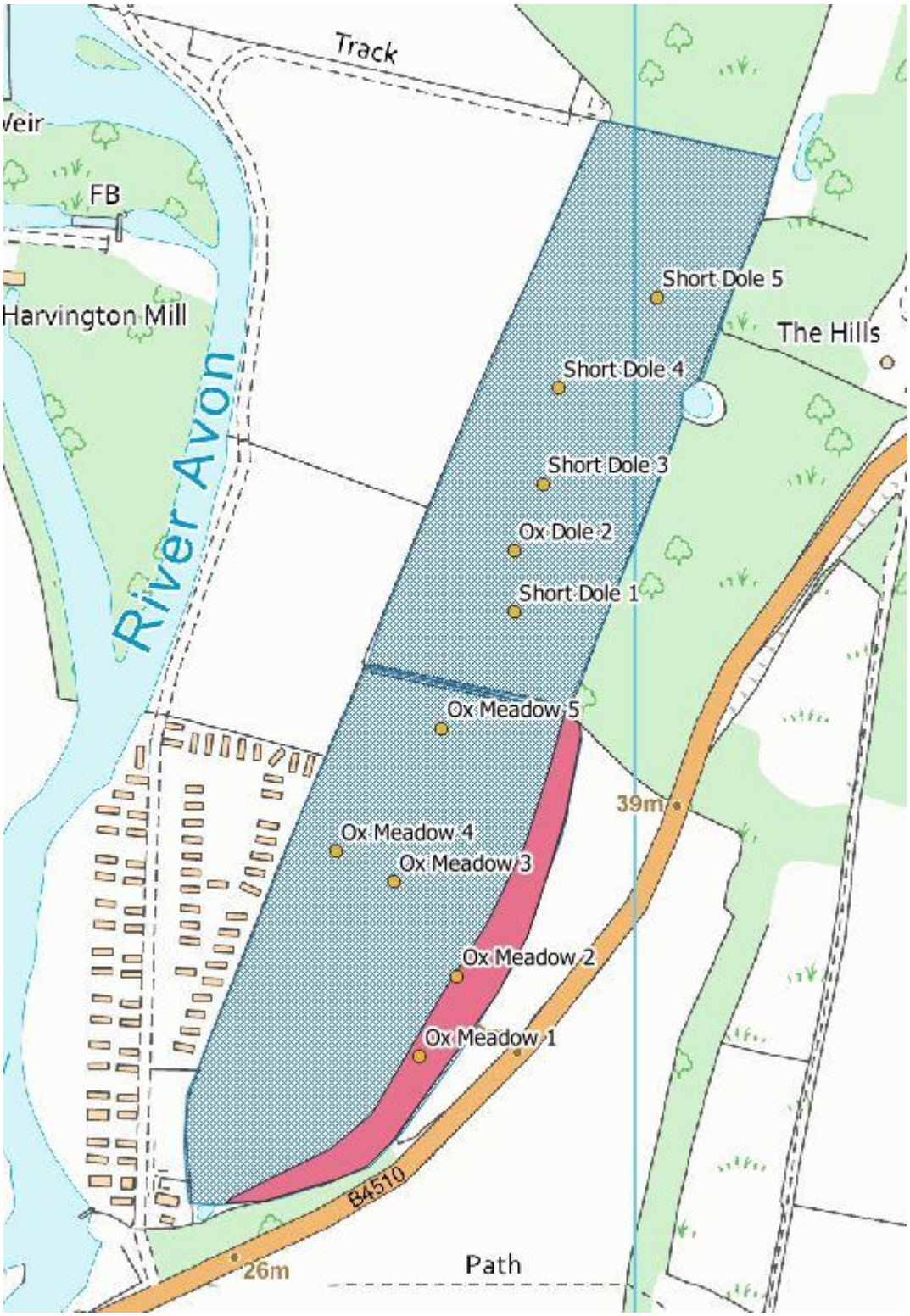
Littleton Meadows (Ox Meadow and Short Dole)
Vale Landscape Heritage Trust
Worcestershire



Yellow dots and numbers refer to locations and numbers of quadrats recorded in 2022. The pink area is where green hay was spread in 2007.

Site Name Littleton Meadows (Ox Meadow Ox and Short Dole-SD)	**Grid Ref** Ox SP068473 SD SP069477	**County** Worcestershire	
River Severn catchment	**Ownership** Vale Landscape Heritage Trust	**Designation** None	**Size (ha)** Ox 4.1 ha SD 3.6 ha
Date 28/06/2022	**Meeting with** Vale Landscape Heritage Trust	**Managed by** VLHT	

Management and History

These meadows were some of the first to be bought by the VLHT in 2004. Historically grazed, but from time of purchase, the fields have been hay cut and aftermath grazed. The fields are cut anytime from the beginning of July and grazed immediately. It is thought to have been heavily fertilised before being bought by the VLHT.

Agri environment agreement

The field is in an agreement. It has just gone into mid-tier, initially as existing species rich meadow. The agreement will last for 5 years.

Restoration

Technique used/Dates

A change in management occurred 18 years ago, from grazing, to hay cut and aftermath grazed. Subsequently, in 2007, just before the major floods of that year, green hay was spread along the eastern strip of Ox Meadow (coloured pink on the map).

Some seeds of great burnet have also been spread by hand in the green hay strip.

The VLHT bought the site to protect the old hay meadow and plan to manage it to maximise its floodplain meadow diversity. The driver is for nature conservation. The VLHT manage a substantial number of sites across the Vale, bought for protection and conservation.

Hydrology	
Flooding regime Water management Soil-water levels (indicated by auger hole/any other data)	

Current site interest

A botanical survey was carried out on five 1 x 1 m quadrats in each field. Short Dole appeared to be slightly more species-rich (average 14 sp/m^2) compared to Ox Meadow (11 sp/m^2). Apart from that, both fields have a very similar vegetation, which has relatively low (about 50%) similarity score with the reference NVC types of MG4c Burnet floodplain meadow Yorkshire fog sub-community (*Alopecurus*

pratensis-Sanguisorba officinalis, Holcus lanatus sub-community) and MG6 Ryegrass pasture (*Lolium perenne-Cynosurus cristatus* grassland).

Small grasses including red fescue *Festuca rubra* and common bent *Agrostis capillaris* dominate the sward in both fields. These species form a thick and abundant litter (thatch) which prevents seedlings of less competitive species from establishing in the field. A few herbs have established from the green hay applied along the edge of Ox Meadow. However, they are not spreading into the main meadow, possibly prevented by the thick thatch on the meadow. Both grasses, as well as crested dog's-tail *Cynosurus cristatus,* grow well on compacted soils. There is a large cover of creeping cinquefoil *Potentilla reptans* in both fields, which also supports the idea that there may be soil compaction inherited from the time when the fields were used as heavily grazed pastures. This may be limiting the species richness of the meadows.

Ellenberg indicator values based on the current vegetation (Table 1), suggest that soil moisture and nutrient levels are suitable for meadow restoration. The ratio of Grime's functional types in the existing vegetation (Table 2) reveal a high proportion of stress-tolerant species in the plant community. This is a positive sign, however, a large proportion of the stress-tolerant species may be inherited from the pasture regime.

Short Dole (just) qualifies as Priority Habitat Lowland Meadows Condition A with at one frequent bold species and three occasional.

Phosphorus levels	Not known.

Soil profiles

This is completed by members of the FMP team recording a soil profile.

Management recommendations

The fields have high levels of thatch. Suggest leaving a period of time between cutting and grazing. Grazing later in the autumn will supress re-growth of both common bent and red fescue, which in turn will ensure less thatch is deposited over the autumn and winter months. Testing the soil for compaction might help to identify another limiting factor for meadow restoration. The application of more green hay and seeds should also enhance species richness in the fields and support better composition of the plant communities there. However this may not be appropriate if the soil is compacted.

It is recommended to submit Short Dole (if not already done so) to the PHI inventory team at Natural England HabitatInventories@naturalengland.org.uk if you want to include the restoration field for future Stewardship applications. Send this report with the botanical datasheet attached to the above email address.

Table 1. Summary of the botanical data collected

	Ox Meadow	Short Dole
Ellenberg F (moisture tolerance)	5.38	5.22
Ellenberg N (fertility)	4.84	4.8
Ellenberg R (Reaction)	5.7	5.78
Species/quadrat (mean and range /1 m x 1 m)	11 (9-14)	14 (9-21)
NVC (top 2 MAVIS subcommunities)	MG4c MG6a	MG4c MG6a

Table 2. Five categories of meadow restoration progress, measured by indicator scales based on species richness, NVC similarity score and ratios of Grime's plant functional types. Adapted from Rothero, Tatarenko & Gowing, 2020.

Ox Meadow and Short Dole	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 (number of species per 1 m^2)	<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