

Landownership and site background

These two meadows are managed by Dorset County Council. They were previously permanent grass, managed as pasture until they were used as part of a flood alleviation scheme constructed in the early 1990's.

Restoration activity

The flood alleviation scheme required the construction of two attenuation ponds and a flood bank along the western end of the meadows. Railway viaduct rubble was used to create another bank. Parts of the open field areas were subsequently strewn with green hay.

Current management

Annual hay cut, arisings removed.

Site information

Size: 8.6 ha

Public access: Yes

Phosphorus levels: Not known

Soil type and profile:

Flood frequency: 5-6 times per year



Five botanical quadrats were surveyed in Stour Meadow field 1. The species richness varied from 10 to 15 species per 1 x 1 m², with 12 species on average. This is quite low for floodplain meadows. Four grass species strongly dominate the sward: meadow foxtail *Alopecurus pratensis*, cock's-foot *Dactylis glomerata*, perennial rye-grass *Lolium perenne*, and rough-stalked meadow-grass *Poa trivialis*, indicating relatively well drained soil but which is enriched with nutrients.

The Ellenberg indicator values for soil nutrients and soil moisture (Table 1) support this conclusion. The widespread presence of such forbs as hogweed *Heracleum sphondylium* and the high abundance of meadow buttercup *Ranunculus acris* also support the likelihood of high soil fertility.

This dominance of grasses in the sward means that the National Vegetation Classification (NVC) according to MAVIS, most closely aligns these fields to the MG7d *Lolium perenne* leys and related grasslands (*Lolium perenne*-*Alopecurus pratensis* grassland type). However, the relatively strong presence of forbs means that the fields are also closely aligned to the classic floodplain meadow plant community, albeit a low species rich sub community: MG4c meadow foxtail – great burnet *Alopecurus pratensis*-*Sanguisorba officinalis* grassland with Yorkshire fog *Holcus lanatus* subcommunity.

Stour Meadows 1 does meet the Natural England criteria for Good Quality Semi-Improved grassland. It does not quite meet the criteria for Lowland Meadow Priority Habitat, however it should progress in that direction with continued thoughtful management.

Stour Meadow 2 was surveyed with 2 botanical quadrats but there is a substantial similarity in vegetation between both fields. However, Stour Meadow 2 appears to be more species-rich having up to 19 species per 1 x 1 m. Competitive species are less prevalent here compared to Stour Meadow 1 (Table 1), allowing more species from other functional groups to be present in the sward. It should be noted that more than 2 quadrats recorded would result in a more comprehensive assessment of the interest in this field.

Table 1 Summary of the botanical data collected

Field	Ellenberg scores, average			Grime's CSR types		
	F	R	N	C	S	R
Stour Meadow 1	5.36	6.14	5.66	3.226	2.278	2.724
Stour Meadow 2	5.6	6.4	5.6	3.12	2.34	2.8

Management recommendations

Consistent annual hay cut management is the best way of supporting these two meadows. It might be worth considering an earlier hay cut in some years, from the end of June when conditions and contractors allow, to help manage nutrient levels and increase the spread of typical meadow forbs more effectively.

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.

Stour Meadow 1	Score of progress (1 = poor progress, 5 = very good progress)				
Measure	1	2	3	4	5
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%	>65%
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

Stour Meadow 2	Score of progress (1 = poor progress, 5 = very good progress)				
Measure	1	2	3	4	5
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%	>65%
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](#)

