

### Landownership and site background

The field is owned by the National Trust and managed through a tenancy.

### Restoration activity

The field was mown and chain harrowed, before the seed was sown. It was then rolled. Some plug planting has also been undertaken. Seed was supplied through the National Trust. The corner on the other south-west side of the ditch was not seeded. The work was carried out in 2010.

### Current management

The field is hay cut and aftermath grazed. However the section in on the south west side of ditch can't be mown as there is no access).

### Progress by 2023\*

The visit in 2017 recorded that the south-west corner of the field (called 2A) had a different plant community to any of the other adjacent fields. A large proportion of gravel in the shallow silty loam makes this very well drained soil an ideal substrate for great burnet *Sanguisorba officinalis* and the ground cover of this species varied from 30 to 90% in Field 2-A. Legumes including tufted vetch *Vicia cracca* and meadow vetchling *Lathyrus pratensis* were also abundant here. Meadowsweet *Filipendula ulmaria* and meadow crane's bill *Geranium pratense* formed large patches. Sweet vernal grass *Anthoxanthum odoratum* had the highest percentage cover of the grasses recorded. This corner was not very species rich (on average, 12.2 species per 1 square metre) but the vegetation was most similar to the Burnet floodplain meadow sub-community Yorkshire fog (*Alopecurus pratensis* -*Sanguisorba officinalis* grassland, *Holcus lanatus* subcommunity).

By 2023, it was apparent that the field had not been cut for some years due to problems with access.

### Site information

**Size:** 0.9 ha

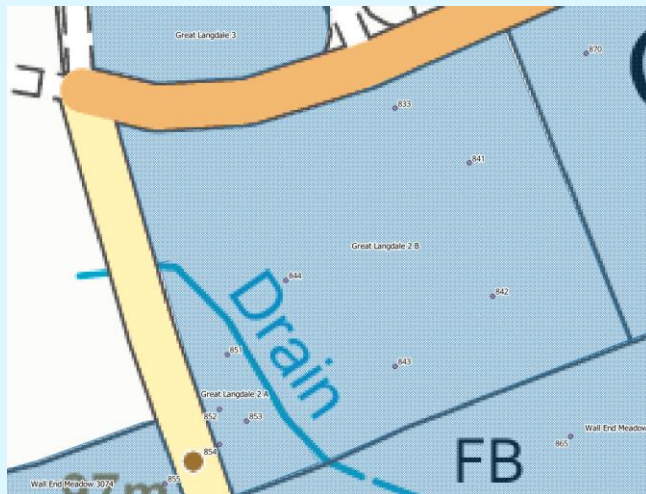
**Public access:** No

**Phosphorus levels:** Olsen P=8.26 Index ??

**pH:** 5.5

**Soil type and profile:** 0-15 cm of silty loam with 20% gravel. Stones below 15 cm.

**Flood frequency:** Doesn't flood very often, river gets full but rainwater collects on floodplain.



This small but very distinctive area had therefore become dominated by false oat-grass *Arrhenatherum elatius*, along with great burnet *Sanguisorba officinalis*. This change in dominant species to false oat grass has resulted in a change of plant community, which now has a high similarity to False oat-grass sward (MG1) *Arrhenatherum elatius* grassland rather than Burnet floodplain meadow grassland (MG4).

Field 2-B is relatively dry, with low fertility. Grasses were very sparse here in 2017 apart from common bent grass *Agrostis capillaris*. Oxeye daisy *Leucanthemum vulgare* and common knapweed *Centaurea nigra* dominate the plant community. Autumn hawkbit *Leontodon autumnalis*, ribwort plantain *Plantago lanceolata*, selfheal *Prunella vulgaris*, meadow buttercup *Ranunculus acris*, creeping buttercup *Ranunculus repens* and yellow rattle *Rhinanthus minor* were all well established in the field.

By 2023, the field had become wetter, but the soil fertility hadn't changed much (Table 1).

**Table 1 Summary of the botanical data collected**

	Field 2-A 2017	Field 2-B 2017	Field 2-A 2023	Field 2-B 2023
<b>Ellenberg F (moisture tolerance)</b>	6.46	4.7	6.5	5.36
<b>Ellenberg N (fertility)</b>	4.86	4.28	5.28	4.32
<b>Ellenberg R (Reaction)</b>	5.88	6.1	6.1	5.22
<b>Species/quadrat (mean and range /1 m x 1 m)</b>	12.2 (10-16)	17.4 (15-20)	10 (9-12)	16 (13-18)
<b>NVC (top 2 MAVIS subcommunities)</b>	MG4c MG9	MG6d MG4c	MG1c MG4c	MG6b MG6d

In Field 2B the species richness has declined by 2 species per 1 square metre. The plant community remains most similar to the Ryegrass pasture (MG6 *Lolium perenne*-*Cynosurus cristatus* grassland), sub-community (MG6b Typical *Lolium perenne*-*Cynosurus cristatus* grassland, *Anthoxanthum odoratum*).

Ox-eye daisy *Leucanthemum vulgare* has reduced substantially. One well established plant of great burnet was noticed in the field, but none was recorded within the botanical quadrats.

The species richness, community assemblage and functional type calculations suggest that Field 2B is progressing well. The community is still vulnerable, as species diversity has declined between 2023 and 2017. However, it has very good potential.

Field 2 was assessed in terms of Natural England's Priority Habitat Inventory criteria. The results suggest this meadow meets the criteria for inclusion in Natural England's Inventory (PHI) as Lowland Meadows Priority Habitat. This means that this is a good quality, species-rich meadow.

This field has a significant value to local meadow restoration projects as it offers a good source of great burnet seeds, which are otherwise difficult to obtain and establish in restoration fields

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



**Tables 2a and 2b.** 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.

Table 2a. Field 2-A	Score of progress (1 = poor progress) 5 = very good progress				
Measure	1	2	3	4	5
<b>Average scores from five botanical quadrats per field. Calculated in MAVIS</b>					
Species richness (number of species per 1 m <sup>2</sup> )	<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

Table 2b. Field 2-B	Score of progress (1 = poor progress) 5 = very good progress				
Measure	1	2	3	4	5
<b>Average scores from five botanical quadrats per field. Calculated in MAVIS</b>					
Species richness (number of species per 1 m <sup>2</sup> )	<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

### Management recommendations

An annual hay cut and aftermath grazing is recommended. If Field 2A could be returned to a cutting regime, then the rare plant community found there in 2017 should return

The large population of great burnet in Field 2-A could serve as a local source of seeds for conservation projects in the area.

