

Lancashire's Biological Heritage Sites

Site assessment and management recommendations

Higher Fence Wood Meadows / BHS 64NW04



Date of survey: 21st June 2022

Surveyor: [REDACTED], Senior Ecologist

Reason for Biological Heritage Site status

Higher Fence Wood Meadows are designated as a Biological Heritage Site due to their grassland interest. The BHS is listed under grassland guideline Gr3: "Areas of old established semi-natural grassland over 0.5 hectare, including sites referable to the listed NVC types, with 10 or more species in Table 1". See [BHS Guidelines for Site Selection - Lancashire County Council](#)

Areas of old established species rich grassland supporting a wide variety of grasses and flowers are now rare both nationally and within Lancashire. As well as being important for their plant diversity, these grasslands also support a wide range of fauna, including providing food for pollinators, and are essential to tackling and adapting to climate change (for example by storing carbon in their soils).

Sadly, between the 1930s and 1980s, 97% of England's traditional wildflower grasslands were lost and this loss continues. Those remaining are mostly isolated fragments. They have mainly been lost due to agricultural improvement, along with other impacts such as development, afforestation and lack of management leading to scrub encroachment and natural succession to woodland.

Site survey results (please also see full species lists below)

East field (field 1)

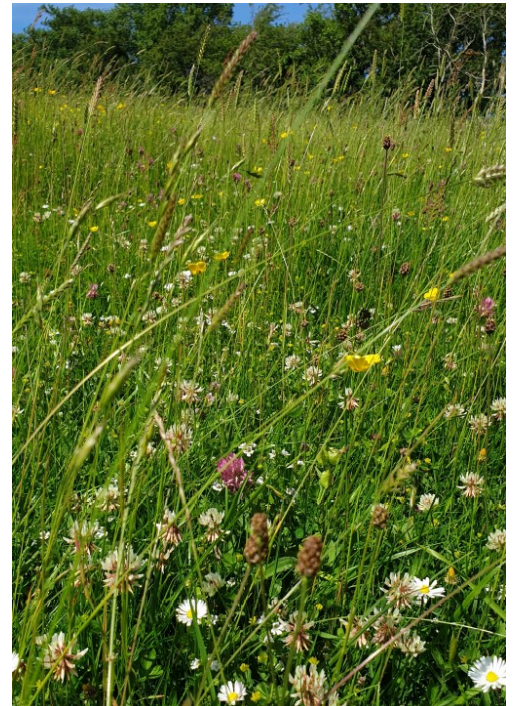
This meadow is drier in character than the western meadow (field 2) with a uniform sward and species composition.

The meadow appears to have had some historic agricultural improvement with abundant white clover and a grassy sward, including abundant Rye-grass and Smooth Brome. Despite this the meadow includes a good range and abundance of wildflowers and finer leaved grasses. Creeping Buttercup is present but only occasionally. This meadow meets the qualifying criteria for Biological Heritage Site status.

In addition to White Clover, other abundant wildflowers include Red Clover, Yellow Rattle, Ribwort Plantain, Common Sorrel and Meadow Buttercup. Eyebright, Tufted Vetch and Lesser Trefoil are frequent along with occasional Meadow Vetchling, Autumn Hawkbit and Common Knapweed.

The abundance of clovers, vetches and yellow rattle are a good food source for bees. Good numbers of foraging bees were observed in the meadow during the survey.

The composition and abundancies of grasses and wildflowers in the meadow does not appear to be significantly different from surveys carried out in 2007/2008.



West field (field 2)

The western meadow is wetter than the eastern meadow (field 1) with damp soils and flushed with water in places, such as in the south-west. A number of the species of interest present are those adapted to thrive in the damper soil conditions, such as Marsh-Marigold, Meadowsweet, Changing Forget-me-not, Cuckooflower, Greater bird's-foot-trefoil, Ragged Robin, Lesser Spearwort and Bog Stitchwort.



Marsh-Marigold

(photos taken at another site)



Ragged-Robin

There is evidence of some agricultural improvement with Creeping Buttercup, White Clover and Rye-grass. Creeping Buttercup is abundant through the meadow but is especially abundant in the eastern 2/3rds. The abundance of Creeping Buttercup appears to have increased since surveys in 2007/2008. Creeping Buttercup can thrive in damper soils where there are increased inputs and/or soil compaction, for example due to heavy machinery.

A lone Hawthorn toward the middle of the field is located on the north edge of a wet hollow. Here Soft Rush and Marsh Marigold are abundant, along with Bog Stitchwort, Cuckooflower and Meadowsweet. There is evidence of an old bonfire site in the hollow. Abundant nettles are present by the hawthorn, indicating nutrient enrichment (possibly from previous bonfires or due to stock sheltering).

The sward in the western 1/3rd of meadow (to the west of the dip/bank and hawthorn) is diverse and contains a greater range and abundance of species of interest (species indicating old established grasslands) than the eastern 2/3rds.

The meadow as a whole meets the qualifying criteria for Biological Heritage Site status. The western 1/3rd of the meadow meets the qualifying criteria alone. The eastern 2/3rds is less species rich, although some species of interest are present throughout and a dip towards the western boundary has greater interest.

It appears that the meadow has possibly declined in quality since surveys in 2007/2008, especially in the eastern 2/3rds. In addition to an apparent increase in Creeping Buttercup, the frequency of some of the species of interest appear to have declined and a couple previously recorded were not observed in 2022. However, there are some other discrepancies between the 2007/2008 and 2022 surveys, for example Eyebright was not recorded in 2007/2008 but was occasional in 2022.

Management recommendations to maintain the biodiversity value of the meadows

- Do not plough, cultivate or re-seed
- Do not carry out drainage works
- Do not apply any inorganic fertilizer or slurry, as this will lead to increased vigour of grasses and more dominant species to the detriment of the plant diversity and biodiversity value.
- Do not apply herbicides, other than spot treatment of injurious weeds if necessary. Injurious weeds did not seem to be a problem in either meadow.
- Occasional light applications of well-rotted farmyard manure if needed and if part of traditional management of the meadows. It is generally recommended that farmyard manure applications are not more than 12 tonnes per ha and that application rates are not increased if it is currently less than this. It may be worth reducing the amount of manure applications, if this is possible, to see if this helps to recover and increase species richness, especially in the western meadow.
- Do not apply manure in years when the fields are not cut for hay/haylage
- As a general rule, meadows should be shut up for at least a couple of months and cut after mid-July, ideally with an occasional later cut in August or September (e.g. 1 year in 5). As I'm sure you are aware cutting later allows flowering plants the chance to set seed and ensures that ground nesting birds are not disturbed.
- Consider using centre-out mowing where grasslands support breeding ground nesting birds
- Make field dried hay rather than silage where possible, as turning and drying the hay over a few days allows more seeds to be shed back into the meadow.
- Avoid machinery access when ground conditions are wet, to avoid damage to the soil and creating areas which could be invaded by undesirable species (injurious weeds), such as Creeping Thistle and Broad-leaved Dock.
- Smaller bales coupled with lighter machinery are preferable to avoid soil compaction.
- Graze aftermath with cattle and/or sheep during autumn and early spring to help keep the sward low and to help tread in the seed.
- Avoid overgrazing or poaching, which creates bare ground and provides sites for the invasion of undesirable species.
- Do not to supplementary feed as this can lead to nutrient enrichment and poaching.
- Restrict weed control to mechanical methods or spot treatment with herbicide.
- Avoid bonfires in the meadows
- Consider works to enhance/restore the diversity of the eastern 2/3rds of the western meadow, such as green hay spreading from a suitable donor site. The Forest of Bowland AONB have been carrying out restoration and enhancement works on traditional meadows across the AONB for a number of years now. [REDACTED] is a good point of contact should you be interested in investigating this: [REDACTED]

Full list of species recorded during the survey

*DAFOR frequencies of occurrence. D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare, L=Locally, P=present but frequency not recorded

Species in **bold** are indicator species of old established semi-natural grasslands. 10 species reasonably well distributed are required to meet the relevant BHS criteria.

East meadow (field 1)

Common Name	Scientific Name	DAFOR
Daisy	<i>Bellis perennis</i>	O
Marsh-marigold	<i>Caltha palustris</i>	R
Cuckoo flower	<i>Cardamine pratensis</i>	R
Oval sedge	<i>Carex ovalis</i>	R
Common Knapweed	<i>Centaurea nigra</i>	O
Common mouse-ear	<i>Cerastium fontanum</i>	A
Pignut	<i>Conopodium majus</i>	R
Eyebright	<i>Euphrasia spp</i>	F
Meadowsweet	<i>Filipendula ulmaria</i>	R
Common hogweed	<i>Heracleum sphondylium</i>	R
Sharp-flowered / Jointed rush	<i>Juncus acutiflorus/articulatus</i>	R
Compact rush	<i>Juncus conglomeratus</i>	R
Soft rush	<i>Juncus effusus</i>	R
Meadow vetchling	<i>Lathyrus pratensis</i>	O
Autumn Hawkbit	<i>Leontodon autumnalis</i>	O
Common Bird's-foot-trefoil	<i>Lotus corniculatus</i>	R
Greater bird's foot trefoil	<i>Lotus uliginosus</i>	R
Wood rush sp.	<i>Luzula sp.</i>	R
Changing Forget-me-not	<i>Myosotis discolor</i>	R
Ribwort plantain	<i>Plantago lanceolata</i>	A
Selfheal	<i>Prunella vulgaris</i>	O
Meadow buttercup	<i>Ranunculus acris</i>	A
Creeping buttercup	<i>Ranunculus repens</i>	O
Yellow-rattle	<i>Rhinanthus minor</i>	A
Common sorrel	<i>Rumex acetosa</i>	A
broad-leaved dock	<i>Rumex obtusifolius</i>	R
Dandelion	<i>Taraxacum officinale</i>	F
Lesser trefoil	<i>Trifolium dubium</i>	F
Red clover	<i>Trifolium pratense</i>	A
White clover	<i>Trifolium repens</i>	A
Common nettle	<i>Urtica dioica</i>	R
Germander speedwell	<i>Veronica chamaedrys</i>	R
Tufted vetch	<i>Vicia cracca</i>	F
Bush vetch	<i>Vicia sepium</i>	O
Grasses		
Common bent	<i>Agrostis capillaris</i>	O
Meadow foxtail	<i>Alopecurus pratensis</i>	A
Sweet Vernal Grass	<i>Anthoxanthum odoratum</i>	A
Smooth Brome	<i>Bromus racemosus</i>	A
Crested Dog's-tail	<i>Cynosurus cristatus</i>	A

Cock's-foot	<i>Dactylis glomerata</i>	O
Red Fescue	<i>Festuca rubra</i>	O
Yorkshire fog	<i>Holcus lanatus</i>	A
Perennial Rye-Grass	<i>Lolium perenne</i>	A
Smooth Meadow grass	<i>Poa pratensis</i>	R
Rough meadow grass	<i>Poa trivialis</i>	F

West meadow (field 2)

Common Name	Scientific Name	DAFOR whole field	DAFOR west 1/3rd	DAFOR east 2/3rds
Daisy	<i>Bellis perennis</i>	O	R	O
Marsh-marigold	<i>Caltha palustris</i>	O-LF	O	R
Cuckoo flower	<i>Cardamine pratensis</i>	O	F	R
Hairy sedge	<i>Carex hirta</i>	R	R	
Oval sedge	<i>Carex ovalis</i>	R-LF	R	R
Common mouse-ear	<i>Cerastium fontanum</i>	A	A	A
Marsh Thistle	<i>Cirsium palustre</i>	R	R	
Pignut	<i>Conopodium majus</i>	R	R	
Willowherb species	<i>Epilobium sp.</i>	R	R	
Marsh Horsetail	<i>Equisetum palustre</i>	R	R	
Eyebright	<i>Euphrasia spp</i>	O	R	F
Meadowsweet	<i>Filipendula ulmaria</i>	R-LF	LF	
Marsh bedstraw	<i>Galium palustre</i>	R		R
Sharp-flowered / Jointed rush	<i>Juncus acutiflorus/articulatus</i>	R	R	
Compact rush	<i>Juncus conglomeratus</i>	R	R	
Soft rush	<i>Juncus effusus</i>	O-LF	F	O
Meadow vetchling	<i>Lathyrus pratensis</i>	R	O	R
Autumn Hawkbit	<i>Leontodon autumnalis</i>	O	R	O
Greater bird's foot trefoil	<i>Lotus uliginosus</i>	R	O	R
Ragged-Robin	<i>Lychnis flos-cuculi</i>	R	R	
Changing Forget-me-not	<i>Myosotis discolor</i>	O	R	F
Ribwort plantain	<i>Plantago lanceolata</i>	A	A	A
Selfheal	<i>Prunella vulgaris</i>	R	R	R
Meadow buttercup	<i>Ranunculus acris</i>	O	O	R
Lesser Spearwort	<i>Ranunculus flammula</i>	R	R	
Creeping buttercup	<i>Ranunculus repens</i>	A	A	A-D
Yellow-rattle	<i>Rhinanthus minor</i>	F	F	F
Common sorrel	<i>Rumex acetosa</i>	A	A	A
broad-leaved dock	<i>Rumex obtusifolius</i>	R	R	R
Bog Stitchwort	<i>Stellaria alsine</i>	R		R
Dandelion	<i>Taraxacum officinale</i>	R	R	R
Red clover	<i>Trifolium pratense</i>	R	R	R
White clover	<i>Trifolium repens</i>	O	O	O
Common nettle	<i>Urtica dioica</i>	R	R	
Germander speedwell	<i>Veronica chamaedrys</i>	R	R	R
Tufted vetch	<i>Vicia cracca</i>	R	R	
Bush vetch	<i>Vicia sepium</i>	R		R

Grasses				
Common bent	<i>Agrostis capillaris</i>	F	F	F
Creeping bent	<i>Agrostis stolonifera</i>	R	R	R
Marsh foxtail	<i>Alopecurus geniculatus</i>	F	O	F
Meadow foxtail	<i>Alopecurus pratensis</i>	F	F	O
Sweet Vernal Grass	<i>Anthoxanthum odoratum</i>	A	A	A
Smooth Brome	<i>Bromus racemosus</i>	F	A	A
Crested Dog's-tail	<i>Cynosurus cristatus</i>	F	O	A
Cock's-foot	<i>Dactylis glomerata</i>	R	R	
Tufted Hair-grass	<i>Deschampsia cespitosa</i>	R	R	
Red Fescue	<i>Festuca rubra</i>	F	F	O
Sweet-grass sp.	<i>Glyceria sp.</i>	O	O	R
Yorkshire fog	<i>Holcus lanatus</i>	A	A	A
Perennial Rye-Grass	<i>Lolium perenne</i>	A	A	A
Smooth Meadow grass	<i>Poa pratensis</i>	R	R	R
Rough meadow grass	<i>Poa trivialis</i>	A	A	F