Oridge Street Meadows SSSI
Gloucestershire

Notification under section 28 of the Wildlife and Countryside Act 1981

Supporting Information

Issued by Natural England's West Midlands Team on 10 January 2019

Contact points and further information

This supplement is issued on request by Natural England's West Midlands Team and is intended to be read in conjunction with the notification document for owners, occupiers and other notified parties.

The address for correspondence is:

Natural England
West Midlands Team
County Hall
Spetchley Road
Worcester WR5 2NP

Telephone: 0208 026 0938
Email: Peter.holmes@naturalengland.org.uk
Online: https://consult.defra.gov.uk/natural-england/oridge-street-meadows

Your contact point for specific enquiries relating to this notification is Peter Holmes

The date of notification of Oridge Street Meadows SSSI is: **10 January 2019**

Contents

Summary

Oridge Street Meadows SSSI is notified under Section 28 of the Wildlife and Countryside Act 1981 (as amended).

The site is of special interest for its nationally important species-rich lowland meadow grassland of the nationally rare National Vegetation Classification (NVC) type MG5 crested dog's-tail *Cynosurus cristatus* – common knapweed *Centaurea nigra* grassland.

1. Information used to support the selection of Oridge Street Meadows SSSI

Feature	Data source	Author	Date	Content
Species-rich lowland meadow grassland	The changing extent and conservation interest of lowland grasslands in England and Wales: a review of grassland surveys 1930-1984. *Biological Conservation* 40, 281-300. https://www.sciencedirect.com/science/article/pii/0006320787901212	Fuller, R.M.	1987	Information on the national status of grassland habitats
	British Plant Communities. Volume 3: Grasslands and montane communities. Published by Cambridge University Press	Rodwell, J.S. (ed)	1992	National Vegetation Classification (NVC) for grasslands
	Review of coverage of the National Vegetation Classification. JNCC Report No. 302. JNCC, Peterborough. Published online: http://jncc.defra.gov.uk/page-2312	Rodwell, J.S., Dring, J.S., Averis, J.C., Proctor, M.C.F., Malloch, A.J.C., Schaminée, J.N.J. & Dargie, T.C.D.	2000	Review of NVC coverage
	Monitoring the condition of lowland grassland SSSIs. English Nature Research Report 315. Published online: http://publications.naturalengland.org.uk/publication/64033	Robertson, H.J. & Jefferson, R.G.	2000	National extent of MG5 grassland
	The condition of lowland BAP priority grasslands: results from a sample survey of non-statutory stands in England. English Nature Research Report 636. Published online: http://publications.naturalengland.org.uk/publication/106007	Hewins, E.J., Pinches, C., Arnold, J., Lush, M., Roberston, H. & Escott, S.	2005	Information on the national status of grassland habitats
	State of the Natural Environment 2008. Natural England, Peterborough. Published online: http://publications.naturalengland.org.uk/publication/31043	Natural England	2008	Review of the state of England's natural environment
	Restoring species-rich grassland: principles and techniques. In: Peel *et al.* eds. Restoring diverse grasslands: What can be achieved where, and what will it do for us? *Aspects of Applied Biology* **115**: 11-21.	Pywell, R.F., Woodcock, B., Tallowin, J.R.B., Mortimer, S.R. & Bullock, J.M.	2012	Restoration of species-rich grasslands

Feature	Data source	Author	Date	Content
	A survey of selected agri-environment grassland and heathland creation and restoration sites: Part 1 – 2010 Survey. Natural England Commissioned Report 107. Published online: http://publications.naturalengland.org.uk/publication/4538148	Hewins, E.	2012	Restoration of species-rich grasslands
	A survey of selected agri-environment grassland and heathland creation and restoration sites: Part 2. Natural England Commissioned Report 107. Published online: http://publications.naturalengland.org.uk/publication/4538148	Wilson, P., Wheeler, B., Reed, M. & Strange, A.	2013	Restoration of species-rich grasslands
	Revised Guidelines for the Selection of Biological SSSIs. Part 1: Rationale, Operational Approach and Criteria for Site Selection. JNCC, Peterborough. Published online: http://jncc.defra.gov.uk/pdf/SSSI_GuidelinesPart1_PUBLICATION_Dec2013v2.pdf	Bainbridge, I., Brown, A., Burnett, N., Corbett, P., Cork, C., Ferris, R., Howe, M., Maddock, A. & Pritchard, S. (eds)	2013	National selection guidelines for biological SSSIs
	NVC survey. Oridge Street Meadows. Natural England unpublished survey	Hackman, J.	2014	Survey of grassland vegetation
	Guidelines for the Selection of Biological SSSIs. Part 2: Detailed Guidelines for Habitats and Species Groups. Chapter 3 Lowland Grasslands. JNCC, Peterborough. Published online: http://jncc.defra.gov.uk/pdf/SSSI_Chptr03_revision_2017(v2.0).pdf	Jefferson, R.G., Smith, S.L.N. & MacKintosh, E.J.	2014	Guidelines for selecting lowland grasslands for SSSI notification
	Fate of semi-natural grasslands in England between 1960 and 2013: A test of national conservation policy. *Global Ecology and Conservation* **4**: 516-525. https://www.sciencedirect.com/science/article/pii/S2351989415300184	Ridding, L.E. Redhead, J.W & Pywell, R.F.	2015	National study on loss rates of semi-natural grasslands within and outside protected sites
	EIA Field Assessment Report – Oridge Street Meadows. Natural England unpublished survey	Button, N.	2018	Assessment of damage and restoration options
	Results of Soil Analysis, Oridge St Meadows. Unpublished report to Natural England	NRM Laboratories, Bracknell	2018	Soil survey results
	Specialist support for notification of Oridge Street Meadows as a SSSI	Jefferson, R.G.	2018	Support from Natural England's grassland specialist

2. Explanation of how Oridge Street Meadows meets the SSSI selection guidelines

This section explains how the information listed in Section 1 has informed the decision to notify the SSSI, according to the *Guidelines for the selection of Biological SSSIs. Part 1: Rationale, Operational Approach and Criteria for Site Selection* (Bainbridge *et al.* 2013) and *Part 2: Detailed Guidelines for Habitats and Species Groups. Chapter 3 Lowland Grasslands* (Jefferson *et al.* 2014), hereafter referred to as 'the Guidelines'.

2.1 Species-rich lowland meadow grassland

Oridge Street Meadows SSSI is of special interest for its species-rich neutral grassland (see photographs 1-5 in section 6) characterised by the nationally rare National Vegetation Classification (NVC) type MG5 crested dog's-tail *Cynosurus cristatus* – common knapweed *Centaurea nigra* grassland. This grassland vegetation community forms part of the 'lowland meadows' priority habitat, which is included on the list of habitats and species which are of principal importance for the conservation of biodiversity in England, as required under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

Historically the area of semi-natural grassland in the UK (including MG5) has undergone a severe decline as a consequence of post-war agricultural intensification. It is estimated that by 1984 in lowland England and Wales, semi-natural grassland had declined by 97% over the previous 50 years (Fuller 1987). More recently a 47% loss has been reported between 1960 and 2013 on sites known to have supported species-rich grassland but SSSIs were found to have retained more grassland (91%), compared with non-protected sites (27%), thus highlighting their effectiveness as a means of protecting semi-natural grasslands (Ridding, Redhead & Pywell 2015).

Such widespread loss has led to extensive fragmentation, with remaining grasslands often isolated within the landscape. In addition to loss of habitat, the quality of unimproved grasslands has also declined. An assessment of the condition of semi-natural grasslands on non-statutory sites in England in 2002/2003 found that only 16% of lowland hay meadows were considered to be in good condition, with many lacking positive indicators in sufficient number and frequency due to neglect or agricultural intensification (Hewins et al. 2005). In England the remaining extent of MG5 grassland is estimated to be less than 6,000 ha (Robertson & Jefferson, 2000).

The Guidelines (Part 2, Chapter 3, section 4.10, p.7) state:

> 'For those grassland communities that are now rare (less than 10,000 ha in Great Britain or less than 10,000 ha in the British lowlands, as shown in section A of Annex 1) the presumption is that all examples which are at least 0.5 ha should be selected for notification, singly or in combination.'

MG5 grassland is listed in Section A of Annex 1 of the Guidelines and is shown as a community that is rare; accordingly all examples of at least 0.5 ha should be selected. Oridge Street Meadows SSSI covers an area of 2.62 ha and was found to support MG5 grassland when surveyed in 2014 (Hackman 2014). This includes the northern field (unit 2) which has recently been ploughed and is considered to support MG5 grassland in currently unfavourable condition, as described below.

2.1.1. The northern field (unit 2)

The northern field of Oridge Street Meadows, under a separate ownership from the southern part, was neglected for an unknown number of years but still retained significant grassland interest, recorded as MG5, possibly transitioning to MG9 tufted hair-grass *Deschampsia cespitosa* – Yorkshire-fog *Holcus lanatus* grassland. Following a change of ownership in summer 2017, invading scrub was cleared from the field and the grassland vegetation was cut with the arisings removed in late summer/autumn 2017 (see photograph 2 in section 6). It was initially considered highly likely that following this action the grassland would recover quickly to MG5 in a favourable condition.

Between 8 January and 31 January 2018, the northern field was ploughed. Further preparatory work to establish a seedbed for arable or improved grassland cultivation had not taken place.

A survey was carried out on the 16 February 2018, which looked at vegetation remnants within the field (Button 2018). This confirmed that the vegetation present was consistent with unimproved grassland. No evidence was found in surviving clumps of vegetation to suggest that herbicide had been applied or been effective had it been applied.

The estimated timescale for recovery of the northern field to favourable condition is around ten years. This has been informed by data on soil nutrient status and site visits in 2018, the latter assessing the recovery of its characteristic MG5 flora. Plant species characteristic of MG5 grassland have been recorded following the ploughing event and the soil analysis showed low soil phosphorus levels (NRM Laboratories 2018) making it favourable for restoration of species-rich lowland meadow.

Furthermore, evidence from the considerable body of applied research, monitoring and practical projects across Great Britain shows that it is possible to restore or create lowland meadow grasslands and other drier types of semi-natural grassland on ex-arable land or semi-improved grassland over timescales as short as ten years (Pywell *et al.* 2012; Hewins 2012; Wilson *et al.* 2013).

The potential for restoration back to MG5 grassland is from recolonisation from field margin vegetation, dislodged turfs in the ploughed area, vegetative material in the soil (roots, rhizomes, stolons) and possibly some seed bank. Also the adjacent SSSI fields may allow some natural recolonisation.

With respect to 'potential value', the Guidelines (Part 1, Chapter 5, section 5.12, p.29) state that:

> "This criterion acknowledges that sites can develop a substantially greater nature conservation value as a result of appropriate management or natural change over time. In theory, almost any area of land is potentially of high nature conservation interest, provided that enough re-creative or restorative effort can be expended upon it. However, potential value should only be applied as a criterion in a few specific circumstances. These might include cases where:
>
> - the habitat has recently deteriorated through adverse use...and where the complement of characteristic species is still present or can recolonise, and recovery is likely to take place once the adverse pressure is lifted.
>
> …
>
> It is perhaps most appropriate to apply this criterion where part of a site, sometimes consisting of a different habitat, is in a poorer condition than the rest but its inclusion contributes strongly to the overall interest."

MG5 grassland was recorded in the northern field prior to ploughing and the surveys carried out post-ploughing confirm the following with respect to the potential for recovery to a favourable condition:

- some of the complement of characteristic species (vegetation consistent with unimproved grassland) was found to have survived ploughing in the field margins, in dislodged turfs in the ploughed area, as vegetative remnants in the soil (roots, rhizomes and stolons) and possibly some seed bank;
- the soil conditions remain suitable for recovery of MG5 grassland; and
- further preparatory work to establish a seedbed for arable or improved grassland cultivation has not taken place.

Considering also the close proximity to the southern meadows providing a further potential source for species recolonising the ploughed area and the lack of evidence of herbicide application, the northern field is considered to continue to support MG5 grassland, albeit in a currently unfavourable condition due to the effects of ploughing. The lifting of that adverse pressure (namely cessation of ploughing and no introduction of any other management aimed at agricultural intensification) means that the grassland community can be expected to recover through natural regeneration under sympathetic management. Accordingly the northern field is considered to be part of the area of special scientific interest. A voluntary undertaking was agreed in October 2018

with the owner, which provides the restoration management required. The management was agreed by Natural England's grassland specialist.

3. Assessment of the current condition of Oridge Street Meadows SSSI

Site unit numbers*	Interest features	Reported condition**	Date of last assessment
1	Species-rich lowland meadow grassland	Favourable	1 June 2014
2		Unfavourable – no change	16 February 2018

*** Site units** are divisions used by Natural England for administrative purposes only.

**** Reported condition**
SSSIs are notified because of special biological or geological features. When these features are being managed so that their special nature conservation interest is being maintained they are said to be in favourable condition. This is a United Kingdom standard and the terminology and definitions are more fully described in 'A Statement on Common Standards Monitoring (CSM)', produced by the Joint Nature Conservation Committee in 1998.

3.1 Reasons for adverse condition

The two fields that make up unit 1 are in a Higher Level Stewardship agreement, which follows on from an original Countryside Stewardship Scheme agreement. The fields are well managed as hay meadows and are in a favourable condition.

The field that comprises unit 2 is in separate ownership, had not been managed for a number of years, and had started to show elements of a transition to a different grassland community, MG9 tufted hair-grass *Deschampsia cespitosa* – Yorkshire-fog *Holcus lanatus* grassland. This land has recently changed hands, and management work had been carried out including removing all the invading scrub and cutting and removing the vegetation, which should have been a major benefit to the special interest. But as described above it was then ploughed.

The agreed restoration management was to broadcast a low rate (9 kg/acre) grass seed mix (*Lolium multiflorum westerwoldicum*). This was carried out in autumn 2018 and the land subsequently rolled to give the seed the best chance of establishing. The field will be assessed in spring/summer 2019. Ongoing management should be consistent with the principles set out in Natural England's views about the management of the SSSI.

4. Selection of 'operations requiring Natural England's consent'

Natural England selects operations from a master list when determining the list of operations requiring consent for individual SSSIs. The selection is based on the likelihood that the operations may cause damage to the special features that are the reasons for notification of the SSSI. As well as selecting operations from the master list, the precise wording of each operation may be tailored to suit the particular circumstances at the site.

It is not possible to predict every possible eventuality that may arise on a site but the aim is to identify all operations where it is reasonably foreseeable that, if carried out at certain times or in a particular manner somewhere within the SSSI, are likely to damage the special interest features. The table below records at least one reason justifying the inclusion of each operation in the list for Oridge Street Meadows SSSI. It is not intended to be exhaustive and in most cases there will be other ways in which the specified operation is likely to cause damage.

Standard reference number	**Type of operation**	**At least one reason for listing**
1.	Cultivation, including ploughing, rotovating, harrowing and re-seeding.	Grassland could be destroyed.
2.	Grazing and alterations to the grazing regime (including type of stock, intensity or seasonal pattern of grazing).	Features sensitive to over or under grazing, which could lead to changes in community composition.
3.	Stock feeding and alterations to stock feeding practice.	Could lead to localised nutrient enrichment or poaching which would damage grassland.
4.	Mowing or cutting vegetation and alterations to the mowing or cutting regime (such as from haymaking to silage).	Features sensitive to cutting or mowing, which could lead to changes in community composition if carried out inappropriately.
5.	Application of manure, slurry, silage liquor, fertilisers and lime.	Grassland sensitive to nutrient enrichment, which could lead to dominance by competitive species.
6.	Application of pesticides, including herbicides (weedkillers) whether terrestrial or aquatic, and veterinary products.	Grassland and associated flora/fauna all sensitive to these, both through direct loss and change to community composition.
7.	Dumping, spreading or discharging of any materials.	Risk of obscuring/smothering grassland.
8.	Burning.	Grassland sensitive to burning, both through direct loss and change to community composition.
9.	Release into the site of any wild, feral, captive-bred or domestic animal, plant, seed or micro-organism (including genetically modified organisms).	Could lead to unforeseen interactions with indigenous species and changes in community composition.
10.	Killing, injuring, taking or removal of any wild animal (including dead animals or parts thereof), or their eggs and nests, including pest control and disturbing them in their places of shelter.	Could lead to unforeseen changes in community composition, for instance if key herbivores, pollinators or predators affected. Direct damage to sward could result from some methods.
11.	Destruction, displacement, removal or cutting of any plant or plant remains, including (tree, shrub, herb, hedge, dead or decaying wood, moss, lichen, fungus, leaf-mould or turf).	Damage to grassland habitats and constituent species.

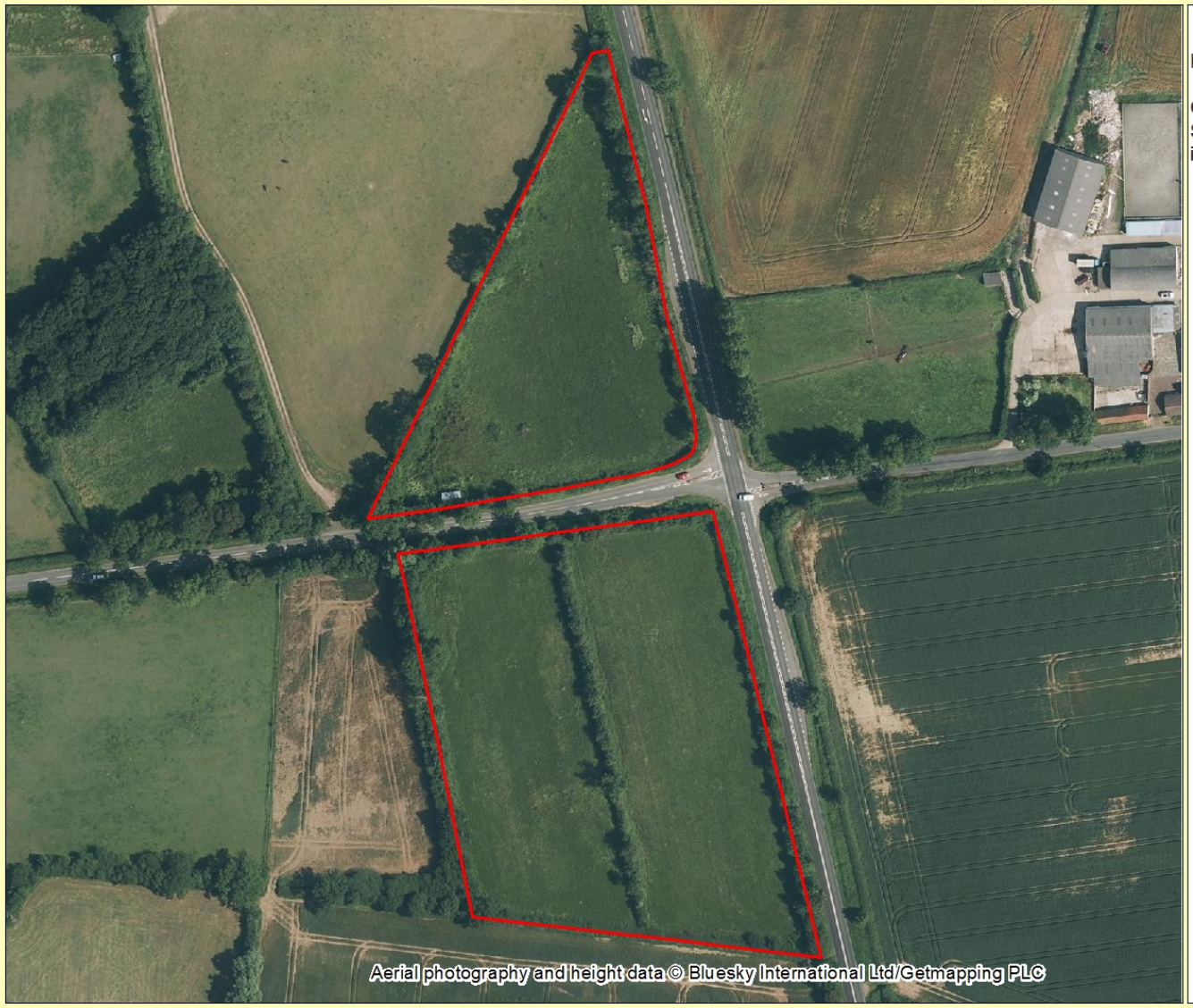
Standard reference number	Type of operation	At least one reason for listing
12.	Tree and/or woodland management and alterations to tree and/or woodland management (including, planting, felling, pruning and tree surgery, thinning, coppicing, changes in species composition, removal of fallen timber).	Risk of incidental damage to grassland, direct loss and changes in community composition due to shading.
13a.	Draining (including the use of mole, tile, tunnel or other artificial drains).	Risk of incidental damage and direct loss to grassland.
13b.	Modification to the structure of water courses e.g. streams, springs, ditches, including their banks and beds, as by re-alignment, regrading, damming or dredging.	Risk of incidental damage and direct loss to grassland.
13c.	Management of aquatic and bank vegetation for drainage purposes.	Risk of incidental damage and direct loss to grassland.
14.	Alterations to water levels and water tables and water utilisation (including irrigation, storage and abstraction from existing water bodies and through boreholes). Also the modification of current drainage operations.	Grassland sward sensitive to changes in hydrology. Direct damage to grassland in the immediate vicinity.
15.	Infilling or digging of ditches, drains, ponds, pools, marshes or pits	Direct damage to grassland
20.	Extraction of minerals including hard rock, topsoil, subsoil, lime and spoil.	Direct loss of grassland.
21.	Destruction, construction, removal, rerouting, or regrading of roads, tracks, walls, fences, hardstands, banks, ditches or other earthworks, including soil and soft rock exposures or the laying, maintenance or removal of pipelines and cables, above or below ground.	Direct loss of or incidental damage to grassland.
22.	Storage of materials.	Risk of obscuring/smothering grassland.
23.	Erection of permanent or temporary structures or the undertaking of engineering works, including drilling.	Direct loss of important habitats.
26.	Use of vehicles or craft.	Risk of damage to grassland, for instance from soil compaction or wheel-rutting.
27.	Recreational or other activities likely to damage or disturb the features of special interest.	Risk of damage to grassland, for instance due to excessive trampling.
28a.	Game and waterfowl management and hunting practices and alterations to game and waterfowl management and hunting practice.	Inappropriate location and types could damage grassland, for instance nutrient enrichment around feeders.

5. Site unit map

The map on the following page shows the provisional boundaries of the site units, which are divisions used by Natural England for administrative purposes only.

Insert Site Unit Map

6 Photographs



Photograph 1

Oridge Street Meadows SSSI boundary shown in red

Scale (at A3): 1:1,260

Map produced by Denise Rose, Strategy Implementation
Date: 01/02/2018.

Photograph 2.
Northern meadow – 15th November 2017.

Photograph 3.
Cowslips in south-eastern meadow – 23rd April 2008

Photograph 4.
Great burnet in south-western meadow – 17th June 2008

Photograph 5.
Green-winged orchid in south-eastern meadow – 14th May 2014