

Malvern Common SSSI Worcestershire

Notification under section 28 of the Wildlife and Countryside Act 1981

Supporting Information

Issued by Natural England's West Midlands Team on 24 May 2018

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.

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The date of notification of Malvern Common SSSI is: 24 May 2018

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Summary

Malvern Common SSSI is notified under Section 28 of the Wildlife and Countryside Act 1981 (as amended).

The site is registered common land and supports unimproved neutral grassland interspersed with rush pasture. It is of special interest for its nationally important:

- species rich neutral grassland of the nationally rare National Vegetation Classification (NVC) type MG5 crested dog's-tail *Cynosurus cristatus* – common knapweed *Centaurea nigra* grassland; and
- rush pasture of the NVC type M23 soft/sharp-flowered rush *Juncus effusus/acutiflorus* common marsh-bedstraw *Galium palustre* rush pasture.

1. Information used to support the selection of Malvern Common SSSI

Feature	Data source	Author	Date	Content
Species- rich neutral grassland and rush pasture	The changing extent and conservation interest of lowland grasslands in England and Wales: a review of grassland surveys 1930-1984. <i>Biological</i> <i>Conservation</i> 40, 281-300. <u>https://www.sciencedirect.com/sci</u> <u>ence/article/pii/000632078790121</u> <u>2</u>	Fuller, R.M.	1987	Information on the national status of grassland habitats
	British Plant Communities. Volume 2: Mires and heaths. Published by Cambridge University Press, Cambridge.	Rodwell, J.S. (ed)	1991	National Vegetation Classification (NVC) for rush pastures
	British Plant Communities. Volume 3: Grasslands and montane communities. Published by Cambridge University Press, Cambridge.	Rodwell, J.S. (ed)	1992	NVC for grasslands
	Review of coverage of the National Vegetation Classification (NVC). JNCC Report No. 302. Published online: <u>http://jncc.defra.gov.uk/page-2312</u>	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: <u>http://publications.naturalengland.</u> <u>org.uk/publication/64033</u>	Robertson, H.J. & Jefferson, R.G.	2000	National extent of MG4 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: <u>http://publications.naturalengland.</u> <u>org.uk/publication/106007</u>	Hewins, E.J., Pinches, C., Arnold, J., Lush, M., Roberston, H. & Escott, S.	2005	Information on the national status of grassland habitats
	UK Biodiversity Action Plan (BAP) Priority Habitat Descriptions – Lowland Meadows. Published online: <u>http://jncc.defra.gov.uk/PDF/UKB</u> <u>AP_PriorityHabitatDesc-</u> <u>Rev2010.pdf</u>	Biodiversity Reporting and Information Group (ed. A. Maddock)	2008	Describes the lowland meadow habitat as defined by the UK BAP
	State of the Natural Environment 2008. Published by Natural England, Peterborough. Published online: <u>http://publications.naturalengland.</u> org.uk/publication/31043	Natural England	2008	Review of the state of England's natural environment

Feature	Data source	Author	Date	Content
	Revised Guidelines for the Selection of Biological SSSIs. Part 1: Rationale, Operational Approach and Criteria for Site Selection. JNCC, Peterborough. Published online: <u>http://jncc.defra.gov.uk/pdf/SSSI</u> <u>GuidelinesPart1_PUBLICATION</u> <u>Dec2013v2.pdf</u>	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
	An NVC Survey of the Malvern Hills Conservators' Holding 2013. RSK Environment report to Malvern Hills Conservators.	Mitchley, J., Heathcote, S., Davies, M.	2013	Survey of grassland and rush pasture 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. <i>Global Ecology and</i> <i>Conservation</i> 4 : 516-525. <u>https://www.sciencedirect.com/sci</u> <u>ence/article/pii/S23519894153001</u> <u>84</u>	Ridding, L.E. Redhead, J.W & Pywell, R.F.	2015	National study on loss rates of semi- natural grasslands within and outside protected sites
	Specialist support for notification of Malvern Common as a SSSI	Jefferson, R.G.	2018	Support for notifying the site from Natural England's senior grassland specialist

2. Explanation of how Malvern Common 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'.

Malvern Common SSSI supports a mosaic of semi-natural grasslands (see photographs 2-5 in section 6 and vegetation map in section 7) and is nationally important for species-rich neutral grassland and rush pasture.

2.1 Species-rich neutral grassland

Malvern Common SSSI is of special interest for its species-rich neutral grassland 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. Malvern Common SSSI supports 8.8 ha of MG5 grassland and an additional 2.1 ha of MG1e false oat-grass *Arrhenatherum elatius* grassland, common knapweed *Centaurea nigra* sub-community, which is considered to be derived from MG5 grassland currently in an unfavourable condition.

MG1e grassland is a community of high botanical value as defined in Section A of Annex 1 of the Guidelines but the Guidelines (Part 2, Chapter 3, section 4.12, p.8) go on to state that:

"It is important to recognise that, in the longer term, the objective for some stands of...MG1e might be to manage them towards...neutral grassland (eg MG5)...by, in particular, introduction of grazing or hay meadow management."

This is the case at Malvern Common SSSI where the 2.1 ha of MG1e grassland is judged to be derived from MG5 grassland due to insufficient management and the objective is to restore these areas to MG5. This will be best achieved by the introduction of grazing, either as permanent pasture or through aftermath grazing following July cutting.

2.2 Rush pasture

In the wetter parts of Malvern Common, to the north of the MG5 grassland, the vegetation grades into M23 soft/sharp-flowered rush *Juncus effusus/acutiflorus* – common marsh-bedstraw *Galium palustre* rush pasture, sharp-flowered rush *Juncus acutiflorus* sub-community, for which the site is of special interest. The extent of M23 is estimated at 2.3 ha.

M23 is listed in Section A of Annex 1 of the Guidelines as a community of high botanical interest but, unlike MG5, it is identified as a widespread community, not a rare one.

For widespread communities, the Guidelines (Part 2, Chapter 3, section 4.11, p.7) state that:

"For those grassland types where the total British resource exceeds 10,000 ha (as shown in section A of Annex 1), an exemplar approach to the selection of sites should be taken...There should be a general presumption to select sites of 5 ha or more..."

Malvern Common supports 2.3 ha of M23, so less than the threshold of 5 ha above which there is a presumption that sites be selected but it occurs in a mosaic with the larger areas of MG5 grassland. In these circumstances, the Guidelines (Part 2, Chapter 3, section 4.13, p.8) state that:

"In the evaluation of sites that contain grassland community mixtures...For combinations of rare and more widespread grassland types, decisions should be taken on a site by site basis, taking account of the criteria in sections 4.9, 4.11 and 4.12."

Section 4.11.2 (Part 2, Chapter 3, p.8) of the Guidelines is most applicable to the M23 at Malvern Common and states that:

"They are located in a...[Area of Search] where...there are few areas of the type and selection would contribute to representing the geographical range of the NVC type nationally..."

Malvern Common SSSI is located within the Severn and Avon Vales National Character Area (NCA)¹, where M23 rush pasture is an uncommon vegetation type.

The area of M23 rush pasture is also a community of high botanical interest under the grassland guidelines but as the area at Malvern Common is less than 5 ha (that is, less than the threshold above which all examples should be selected), it is here included as forming part of the seminatural grassland habitat mosaic with the MG5.

The Guidelines (Part 2, Chapter 3, Section 4.18) further state:

"Sites with a complex of semi-natural habitats reflecting variation in particular environmental parameters or exhibiting transitions between habitats are considered to have greater value....compared to single habitat feature sites."

The areas of M23 rush pasture at Malvern Common form an intimate mosaic with other seminatural grassland communities and show transitions to MG5 grassland reflecting local variations in hydrology.

2.3 Site boundary determination

Malvern Common SSSI comprises a large open common area, dissected by roads (see photograph 1 in section 6). The boundary of the SSSI has been drawn to include the vegetation communities of special interest described above. The boundary follows readily identifiable features, including hedgerows, fence lines and roads.

The SSSI is a mosaic of semi-natural habitat types (see vegetation map in section 7). In addition to the key grassland and rush pasture communities described above, there are small areas of scrub, bracken, ponds, drains and a stream. The remainder of the SSSI includes stands of other grassland communities of lower botanical interest, particularly MG1a false oat-grass *Arrhenatherum elatius* grassland, *Festuca rubra* sub-community.

The Guidelines (Part 2, Chapter 3, Section 5.1) state:

"SSSI boundaries should be drawn to encompass the special features of the site and all land necessary to ensure the protection and sustainability of those features...Consideration should be given to the inclusion of whole management units, entire ecological units and land required for supporting processes, such as hydrology. Thus, for example, this may require the inclusion within a site boundary of areas of land supporting grassland communities of lower botanical interest (section B of Annex 1), or non-grassland vegetation."

The MG1a grassland, other communities of lower botanical interest and non-grassland vegetation on the site are an integral part of the management units within which they form a mosaic with MG5 and M23, and they fall within the readily identifiable boundaries formed by roads, hedgerows and fence lines.

¹ National Character Areas (NCAs) divide England into 159 natural areas, each defined by a unique combination of landscape, biodiversity, geodiversity and economic and cultural activity. NCAs are now used as 'areas of search' for the purposes of SSSI selection (where appropriate) in England. For more information on NCAs, see <u>https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making</u>

3. Assessment of the current condition of Malvern Common SSSI

Site unit numbers*	Interest features	Reported condition**	Date of last assessment
1	Species-rich neutral grassland; rush pasture	Unfavourable recovering	20 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.

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

To achieve positive management of the SSSI owners and occupiers will require consent before undertaking some operations to safeguard the special features of SSSI. These operations are known as Operations requiring Natural England Consent.

When determining the list of operations requiring consent for individual SSSIs, relevant operations are identified from a Natural England master list. 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, they 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 Malvern Common 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 and rush pasture 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 and rush pasture.
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.	Features sensitive to nutrient enrichment, which could lead to dominance by competitive species.

Standard reference	Type of operation	At least one reason for listing
number		
6.	Application of pesticides, including herbicides (weedkillers) whether terrestrial or aquatic, and veterinary products.	Features and associated flora/fauna all sensitive to these, both through direct loss and changes to community composition.
7.	Dumping, spreading or discharging of any materials.	Risk of obscuring/smothering grassland and rush pasture.
8.	Burning.	Grassland and rush pasture sensitive to burning, both through direct loss and changes 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, fungal fruiting-body, leaf-mould or turf.	Damage to grassland and rush pasture habitats and constituent species.
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 and rush pasture, 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 and rush pasture.
13b.	Modification to the structure of water courses e.g. streams, springs, ditches, dykes, drains, including their banks and beds, as by re-alignment, regrading, damming or dredging.	Risk of incidental damage and direct loss to grassland and rush pasture.
13c.	Management of aquatic and bank vegetation for drainage purposes.	Risk of incidental damage and direct loss to grassland and rush pasture.
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 and rush pasture sensitive to changes in hydrology. Direct damage to grassland and rush pasture in the immediate vicinity.
15.	Infilling or digging of ditches, drains, ponds, pools, marshes or pits.	Direct damage to grassland and rush pasture.
20.	Extraction of minerals including peat, hard rock, topsoil, subsoil and spoil.	Direct loss of grassland and rush pasture.

Standard reference number	Type of operation	At least one reason for listing
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 and rush pasture.
22.	Storage of materials.	Risk of obscuring/smothering grassland and rush pasture.
23.	Erection of permanent or temporary structures or the undertaking of engineering works, including drilling.	Direct loss of grassland and rush pasture.
26.	Use of vehicles or craft.	Damage to grassland and rush pasture, for instance from soil compaction or wheel-rutting.
27.	Recreational or other activities likely to damage or disturb the features of special interest.	Damage to grassland and rush pasture, 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 and rush pasture, 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.

6. Photographs



Photograph 1

Malvern Common SSSI boundary shown in red





Scale (at A3): 1:2,829 Map produced by Denise Rose, Strategy Implementation Date: 01/02/2018.

Contains, or is derived from, information supplied by Ordnance Survey. © Crown copyright and database rights 2017. Ordnance Survey 100022021. **Photograph 2:** One of the wetter areas, with common spotted-orchid *Dactylorhiza fuchsii* and southern marsh-orchid *D. praetermissa*



Photograph 3: Neutral grassland area with common knapweed Centaurea nigra



Photograph 4: The sward in a wetter area of the common



Photograph 5: Neutral grassland sward in early summer



7. Vegetation survey map of Malvern Common SSSI

The map below shows the distribution and extent of grassland vegetation communities in the SSSI.

