



Dallow Downs and Winsdon Hill SSSI Luton

***Notification under section 28 of the Wildlife
and Countryside Act 1981***

Supporting Information

Contact points and further information

This supplement is issued on request by Natural England's West Anglia 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 Dallow Downs and Winsdon Hill SSSI is: 13 October 2020

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Summary

Dallow Downs and Winsdon Hill SSSI is notified under Section 28 of the Wildlife and Countryside Act 1981 (as amended).

The site is considered to be of special interest for its:

- lowland calcareous grassland, predominantly of the National Vegetation Classification (NVC) type CG3 upright brome *Bromus erectus* grassland; and
- population of the Nationally Rare plant great pignut *Bunium bulbocastanum*.

1. Information used to support the selection of Dallow Downs and Winsdon Hill SSSI

| Feature | Data source | Author | Date | Content |
|----------------------|--|--|------|--|
| General | A Phase II (National Vegetation Classification) Survey of Dallow Downs and Winsdon Hill and Assessment of its Potential as a Site of Special Scientific Interest (SSSI) | Irving, P., The Greensands Trust (on behalf of the Bedfordshire, Cambridgeshire & Northamptonshire Wildlife Trust and Luton Borough Council) | 2003 | NVC survey of Dallow Downs and Winsdon Hill and information on recent status of <i>Bunium bulbocastanum</i> population at Dallow Downs |
| | Guidelines for the Selection of Biological SSSIs. Part 1: Rationale, Operational Approach and Criteria for Site Selection. Joint Nature Conservation Committee, Peterborough. 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 |
| Calcareous Grassland | The changing extent and conservation interest of lowland grasslands in England and Wales: a review of grassland surveys 1930-1984. <i>Biological Conservation</i> 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 |
| | Monitoring the condition of lowland grassland SSSIs. English Nature Research Report 315. http://publications.naturalengland.org.uk/publication/64033 | Robertson, H.J. & Jefferson, R.G. | 2000 | National extent of CG3 grassland |
| | The condition of lowland BAP priority grasslands: results from a sample survey of non-statutory stands in England. English Nature Research Report 636. 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 |
| | Extent & Distribution of UK Lowland Grassland Habitats http://jncc.defra.gov.uk/page-5848 | Joint Nature Conservation Committee | 2010 | UK extent of lowland calcareous grassland |

| Feature | Data source | Author | Date | Content |
|---------|--|--|------|--|
| | Too steep for the plough? The history of Pasqueflower in Britain. <i>British Wildlife</i> 23 :240-249. | Walker, K.J. & Pinches, C.E | 2011 | Under-grazing/under management as a key driver of poor condition |
| | A Phase II National Vegetation Classification (NVC) Survey of Dallow Downs and Winsdon Hill and Assessment of its Potential as a Site of Special Scientific Interest (SSSI) | Downton, L., Bedfordshire, Cambridgeshire & Northamptonshire Wildlife Trust (on behalf of Natural England) | 2012 | NVC survey of Dallow Downs and Winsdon Hill and assessment of its potential as a SSSI |
| | Potential habitat creation and restoration by National Character Area (NCA) (B2020-003) http://publications.naturalengland.org.uk/publication/4787624740913152?category=5856835374415872 | Natural England | 2013 | Biodiversity 2020 target for the creation and restoration of lowland calcareous grassland in the Chilterns NCA |
| | Fate of semi-natural grasslands in England between 1960 and 2013: A test of national conservation policy. <i>Global Ecology and Conservation</i> 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 |
| | Long term changes in lowland calcareous grassland plots using <i>Tephrosia integrifolia</i> subsp <i>integrifolia</i> as an indicator species. <i>Plant Ecology</i> 218 : 1269-1281. https://link.springer.com/article/10.1007/s11258-017-0767-1 | Stroh, P.A., Pescott, O.L. & Mountford, J.O. | 2017 | Under-grazing/under management as a key driver of poor condition |
| | Guidelines for the Selection of Biological SSSIs. Part 2: Detailed Guidelines for Habitats and Species Groups. Chapter 3. Lowland grasslands. JNCC, Peterborough. http://jncc.defra.gov.uk/pdf/SSI_Chptr03_revision_2017(v2.0).pdf | Jefferson, R.G., Smith, S.L.N. & MacKintosh, E.J. | 2019 | National selection guidelines for SSSIs for lowland grasslands |
| | NVC survey. Dallow Downs and Winsdon Hill. Natural England survey (in prep.) | Natural England (A. Prendergast) | 2019 | Survey of grassland vegetation |
| | Specialist support for notification of Dallow Downs and Winsdon Hill | Pinches, C.E. | 2020 | Support for notifying the site from Natural England's senior grassland specialist |

| Feature | Data source | Author | Date | Content |
|--------------|---|--|------|--|
| Great pignut | Guidelines for the Selection of Biological SSSIs. Part 2: Detailed Guidelines for Habitats and Species Groups. Chapter 11. Vascular plants (flowering plants, ferns and their allies). Nature Conservancy Council, Peterborough. http://archive.jncc.gov.uk/pdf/SSIs_Chapter11.pdf | Nature Conservancy Council | 1989 | National selection guidelines for SSSIs for vascular plants |
| | Arable Plants – a field guide | Wilson, P. & King, M. | 2003 | Distribution and threats to great pignut |
| | Red data list of threatened British fungi (preliminary assessment): http://www.britmycolsoc.org.uk/files/2013/3537/5755/RDL_of_Threatened_British_Fungi.pdf (Accessed Feb 2015) | Evans, S., Henrici, A. & Ing, B. | 2006 | Red-listing of great pignut rust <i>Puccinia bulbocastani</i> |
| | Rediscovery of 'extinct' British rusts <i>Puccinia bulbocastani</i> on great pignut and <i>P. libanotidis</i> on moon carrot. <i>Field Mycology</i> 12(2): 42–48. https://www.sciencedirect.com/science/article/pii/S1468164111000053 | Ainsworth, M., Woods, A., McVeigh, A. & Carey, J | 2011 | Status of great pignut rust <i>Puccinia bulbocastani</i> |
| | England Rare and Scarce taxa. Botanical Society of Britain and Ireland. | Stroh, P.A. | 2013 | Status of <i>Bunium bulbocastanum</i> |
| | Great pignut 2017-18 report for Luton Borough Council | Downton, L. & Dickinson, L. | 2018 | Surveys of great pignut in 2017-18 |
| | Online Atlas of the British and Irish Flora: https://www.brc.ac.uk/Plantatlas/plant/bunium-bulbocastanum Accessed January 2020 | Botanical Society of the British Isles (BSBI) | 2020 | National distribution of <i>Bunium bulbocastanum</i> |
| | Specialist support for notification of Cowslip Meadow and comparison of populations of <i>Bunium bulbocastanum</i> across its English (and therefore GB) range | Taylor, I | 2020 | Support for notifying the site from Natural England's senior vascular plant specialist |

2. Explanation of how Dallow Downs and Winsdon Hill 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), *Part 2: Detailed Guidelines for Habitats and Species Groups. Chapter 3 Lowland Grasslands* (Jefferson *et al.* 2019) and *Chapter 11 Vascular plants* (Nature Conservancy Council 1989), hereafter referred to as 'the Guidelines'.

2.1 Lowland calcareous grassland

Dallow Downs and Winsdon Hill SSSI is considered to be of special interest for its nationally important lowland calcareous grassland, which largely consists of the National Vegetation Classification (NVC) type CG3 upright brome *Bromus erectus* grassland. Some of the CG3 grassland is in mosaic with semi-improved neutral grassland of the NVC type MG1 false oat-grass *Arrhenatherum elatius* and W21 common hawthorn *Crataegus monogyna* - ivy *Hedera helix* scrub type (see photographs 2-7 in section 6 and also the National Vegetation Classification (NVC) maps in section 7). The calcareous grassland provides habitat for a variety of fauna, including slow-worm *Anguis fragilis* and an array of invertebrate species. Plant species of interest within the calcareous grassland include the Nationally Rare great pignut *Bunium bulbocastanum* (see section 2.2, below) and locally rare hairy rock-cress *Arabis hirsuta* (Downton 2012).

Historically the area of semi-natural grassland in the UK (including CG3) has undergone a severe decline. The widespread specialisation and intensification of agricultural systems that took place from 1945 onwards had profound impacts on semi-natural grasslands and the species that depend upon them. It is estimated that by 1984 in lowland England and Wales, semi-natural grassland had declined by 97% over the previous 50 years as a consequence of conversion to agriculturally improved grassland or to arable (Fuller 1987). More recently a 47% loss has been reported between 1960 and 2013 on sites known to have supported species-rich grassland (Ridding, Redhead & Pywell 2015). The study demonstrated that SSSIs had retained more grassland (91%), compared with non-protected sites (27%), thereby highlighting the effectiveness of designation as a means of protecting semi-natural grasslands.

Such widespread loss has led to extensive fragmentation, with remaining grasslands, including calcareous 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 2002/3 found that only 28% of lowland calcareous grasslands were considered to be in good condition, with many lacking positive indicators in sufficient number and frequency, primarily as a consequence of under-grazing and management abandonment (Hewins *et al.* 2005). Indeed insufficient management, principally under grazing, is known to be the key cause of substantive (50%) population declines for two rare plant species, pasqueflower *Pulsatilla vulgaris* and field fleawort *Tephrosieris intergrifolia* subsp. *Integrifolia*, associated with calcareous grasslands (Walker & Pinches 2011; Stroh *et al.* 2017).

Lowland calcareous grasslands support exceptionally rich plant assemblages and have a disproportionately high number of rare species of plants and invertebrates associated with them. For these reasons they are listed as a 'habitat of principal importance for the conservation of biodiversity in England' under Section 41 of the Natural Environment and Rural Communities Act 2006. In 2010 it was estimated that there were 40,600 ha of lowland calcareous grassland in the UK (JNCC), of which the vast majority is found within England. Whilst CG3, characterised by the presence of <10% upright brome *Bromopsis erecta* is the most commonly occurring type, only approximately 19,000 ha are estimated to remain in England (Robertson & Jefferson 2000), much of it fragmented.

Vegetation surveys of Dallow Downs and Winsdon Hill have been carried out in 2003, 2012 and 2019, with broadly similar results. The calcareous grassland at the site is composed largely of the NVC community CG3.

The grassland is a good representative of the typical CG3 community and contains most of the species listed as 'community constants' by Rodwell (1992), as well as some of the 'character' species. The 2012 and 2019 NVC surveys found that the CG3 grassland contained at least five and probably all six CG3 community constants (fescue *Festuca* sp. grass was recorded but not identified to species level in 2012)¹ and seventeen character species².

¹ CG3 community constants (Rodwell 1992) recorded in the CG3 grassland at Dallow Downs and Winsdon Hill in 2012 and 2019: *Bromopsis erecta*, *Poterium sanguisorba* subsp. *sanguisorba*, *Carex flacca*, *Plantago lanceolata*, *Lotus corniculatus*. (*Festuca* sp. was also recorded).

The Guidelines (Chapter 3, section 4.11, page 7) state:

'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. The selection should include the best examples within an AOS [Area of Search], ensuring representation of the range of sub-communities and other significant variation. There should be a general presumption to select sites of 5 ha or more, although in the upland fringes and in AOS with extensive representation of the habitat, selection should focus on the largest, diverse and least modified examples.'

Although CG3 is comparatively well represented within SSSIs in the relevant AOS, The Chilterns National Character Area (NCA)³, it remains far reduced compared to its historic extent and is now largely confined to the scarp and steeper valley slopes, being strongly associated in many Chilterns sites with prehistoric archaeology. Consequently, in comparison with its past extent, its current extent should not be considered significant and inclusion of CG3 as a feature of special interest in Dallow Downs and Winsdon Hill SSSI helps to safeguard CG3 grassland within its historic range.

The 2019 NVC survey recorded 4.65 ha of CG3 grassland at the site. Mosaics of MG1/CG3 and W21/CG3 were also identified, representing a further 3.23 ha of high botanical interest. In total the 2019 NVC survey recorded 7.88 ha of species-rich calcareous grassland at Dallow Downs and Winsdon Hill thus exceeding the area of 5 ha above which the Guidelines advocate a general presumption that sites should be selected.

2.2 Great pignut *Bunium bulbocastanum*

Dallow Downs and Winsdon Hill SSSI is also of special interest for its nationally important population of great pignut *Bunium bulbocastanum* (see photograph 5 in section 6). Great pignut is an umbelliferous plant of limey soils that occurs at only a few sites in Great Britain. It is Nationally Rare (Stroh 2013) and listed as a Red Data Book (RDB) species in table 24 (Chapter 11) of the Guidelines. Great pignut has declined in Great Britain and across much of its European range as a result of agricultural intensification (Wilson & King 2003). In Great Britain, the species is found only in England where it is mainly confined to the chalk hills between Tring and Cambridge.

Great pignut is also important as the sole host for the fungus species, *Puccinia bulbocastani* (great pignut rust), which depends on great pignut for its survival. This species was formerly thought to have become extinct (Evans *et al.* 2006), but was rediscovered in 1996 at Blow's Down SSSI which is approximately 2.5km from Dallow Downs and Winsdon Hill. A 2009 survey by Ainsworth *et al.* found great pignut rust at four sites in Hertfordshire and Bedfordshire, including a site in the same hectad in which Dallow Downs and Winsdon Hill is located.

The great pignut population at Dallow Downs and Winsdon Hill was subject to a specific survey in 2000, when at least 200 plants were recorded (Irving 2003). The species could not be surveyed during a 2012 NVC survey (Downton) or subsequent Natural England site visit in 2014, because the visits were carried out outside the species' flowering season. However, the 2012 NVC report states: *'Personal communication with the site manager confirmed its high presence on site this year.'* In June 2017 67,933 flowering plants were counted by the local Wildlife Trust. The following was noted by the Trust: *'The non-flowering is in the region of 18,580 but the caveat is they only counted them in the biggest patches because of time constraints so there is bound to be more. Total Great pignut is in the region of 86,000'*.

² CG3 community 'character species'(Rodwell 1992) recorded in the CG3 grassland at Dallow Downs and Winsdon Hill in 2012 and 2019: *Leontodon hispidus*, *Centaurea nigra*, *Rhinanthus minor*, *Galium mollugo*, *Achillea millefolium*, *Daucus carota*, *Prunella vulgaris*, *Trifolium pratense*, *Medicago lupulina*, *Knautia arvensis*, *Dactylis glomerata*, *Cynosurus cristatus*, *Ranunculus bulbosus*, *Trisetum flavescens*, *Lathyrus pratensis*, *Festuca arundinacea*, *Centaurea scabiosa*.

³ 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 <https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making>

Table 1 (below) shows the largest known populations of great pignut in Great Britain, most occurring within 'The Chilterns' National Character Area (NCA).

Table 1 Largest great pignut *Bunium bulbocastanum* populations in Great Britain

| Rank | Site name | Area of Search/ NCA | Latest count | Sustainable population? | Recorder | Year |
|------|--|---------------------|---|-------------------------|--|------|
| 1 | Dallow Downs and Winsdon Hill SSSI | Chilterns | 86,513 (including 67,933 flowering) | Yes | Beds, Cambs & Northants (BCN) Wildlife Trust | 2017 |
| 2 | Galley and Warden Hills SSSI | Chilterns | 62,975 (including 46,233 flowering) | Yes | BCN Wildlife Trust | 2017 |
| 3 | Ivinghoe Hills complex | Chilterns | "Multiple colonies: one (centred on SP958158) may have as many as 10,000 plants. The others are all <1000, often 10's - 100's" | Yes | A. McVeigh (pers. comm. via P. Stroh (BSBI)) | 2019 |
| 4 | Cowslip Meadow SSSI | Chilterns | 5,116 (including 249 flowering) | Yes | BCN Wildlife Trust | 2017 |
| 5 | Leagrave Common County Wildlife Site (CWS) | Chilterns | 4,457 (including 471 flowering) | Yes | BCN Wildlife Trust | 2017 |
| 6 | Bradger's Hill CWS | Chilterns | 3,055 (including 285 flowering) | Yes | BCN Wildlife Trust | 2017 |
| 7 | Totternhoe Green Lane | Chilterns | "The only other population where numbers may reach the high 100s, low 1000s is at Totternhoe, where it is liberally scattered along a green lane" | Yes | P. Stroh (BSBI) pers. comm. | 2019 |
| 8 | Cherry Hinton Pit SSSI and Limekiln Close and West Pit LNR | East Anglian Chalk | 100s (BCN report of 2017 gives a count of 36 for 2014 and 63 for 2017) | Yes | CUBG, City of Cambridge and Flora of Cambs (A. Leslie) | 2019 |
| 9 | Hertfordshire sites | Chilterns | "owing to the small size of almost all its populations in the county, the species is extremely vulnerable" (BCN Report 2017 gives a count of 0 from 2014 onwards) | Unknown | Flora of Hertfordshire (T. James) | 2009 |

The Guidelines (Chapter 11, section 3.2) state that:

'All RDB species' localities should be regarded as candidate sites.

One RDB species qualifies a site for selection if it has:

3.2.1 the largest population of this species in Great Britain;

[...]

3.2.3 a good population of the species in an AOS supporting a substantial proportion of localities for the species.

[...]

Judgement of a "good population" should be made in discussion with the CSD rare plant specialist, who holds precise data on both distribution and population sizes of RDB species.'

From recent counts, especially noting the 2017 survey, Dallow Downs and Winsdon Hill holds the largest known population of great pignut in Great Britain. It therefore qualifies as a feature of special interest under section 3.2.1 of The Guidelines (see above). It also qualifies as a feature of special interest under section 3.2.3, as the AOS (Area of Search) for the site (in this case 'The Chilterns' NCA) supports a substantial proportion of localities of this species.

2.3 Site boundary determination

Dallow Downs and Winsdon Hill SSSI consists of a large area of downland containing calcareous grassland, a mosaic of unimproved neutral grassland and areas of transitional scrub (diverse, open W21 scrub) and woodland (see photograph 1 in section 6).

It is, for most of its perimeter, enclosed by fencing, beyond which is housing, or roads such as the M1 motorway to the west of the site.

The boundary has been drawn to include land supporting the features of special interest and those areas required to ensure the long-term sustainability of these features.

The Guidelines (Part 2, Chapter 3, Section 5.1, page 10) 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 less botanically diverse communities (such as MG1 grassland) and non-grassland vegetation on the site are an integral part of the ecological and management units. They form an intimate mosaic with the CG3 grassland, adding structural diversity, a variety of habitat niches for the species found on site, and offer potential for restoration and enhancement in the longer term. Additionally they fall within the readily identifiable boundaries formed by fence lines and roads.

3. Assessment of the current condition of Dallow Downs and Winsdon Hill SSSI

| Site unit numbers* | Interest features | Reported condition** | Date of last assessment |
|--------------------|--|----------------------|-------------------------|
| 1 | Lowland calcareous grassland, great pignut | Favourable | 15 July 2019 |

* **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’

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 Dallow Downs and Winsdon Hill 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 great pignut 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 great pignut. |
| 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 and great pignut 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 and great pignut. |
| 8. | Burning. | Grassland and great pignut 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. |

| Standard reference number | Type of operation | At least one reason for listing |
|----------------------------------|---|--|
| 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. | Could cause direct or incidental damage to grassland habitats and constituent species. |
| 12. | Tree and woodland management and alterations to tree and 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 great pignut, 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 to grassland and great pignut. |
| 14. | Alterations to water levels and 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 and great pignut in the immediate vicinity. |
| 15. | Infilling or digging of ditches, drains, ponds, pools, marshes or pits | Direct damage to grassland and great pignut. |
| 20. | Extraction of minerals including hard rock, topsoil, subsoil, chalk, lime and spoil. | Direct loss of grassland and great pignut. |
| 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 great pignut. |
| 22. | Storage of materials. | Risk of obscuring/smothering grassland and great pignut. |
| 23. | Erection of permanent or temporary structures or the undertaking of engineering works, including drilling. | Direct loss of grassland and great pignut. |
| 26. | Use of vehicles or craft. | Risk of damage to grassland and great pignut, for instance from soil compaction or wheel-rutting. |
| 27. | Recreational or other activities likely to damage or disturb the features of special interest or their habitat. | Risk of damage to grassland and great pignut, 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 great pignut, 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



Aerial photography and height data © Bluesky International Ltd/Getmapping PLC

Photograph 1

Dallow Downs and Winsdon Hill
SSSI boundary shown in red



Scale (at A3): 1:5,554

Map produced by Denise Rose,
Landscape, Biodiversity & Designation Team
Date flown: 07/06/2016.

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Photograph 2: CG3 grassland on Dallow Downs with urban Luton beyond



Photograph 3: CG3 grassland community on Dallow Downs



Photograph 4: CG3/W21 transition on Dallow Downs



Photograph 5: Great pignut *Bunium bulbocastanum* on Dallow Downs



Photograph 6: Species rich slope on Winsdon Hill



Photograph 7: Species rich community on Winsdon Hill with woodland in the background

7 NVC maps



Dallow Downs & Winsdon Hill - Luton

NVC

- CG3a
- CG3b
- CG3b-MG1e
- CG3b-W21d
- CG3d-MG1e
- MG1a
- MG1e
- ◆◆◆ Main area of Greater Pignut
- OV27
- W21d
- W21d-MG1e
- W21d-c
- W8d
- W8d-W21d
- Quadrat location

NextPerspectives™



Scale (at A3): 1:2,300
 Map produced by Sonja Kaupe,
 Date: 25/11/2019.
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 2012 Ordnance Survey 100022021.

Dallow Downs & Winsdon Hill - Luton



NVC

- CG3a
- CG3b
- CG3b-MG1e
- CG3b-W21d
- CG3d-MG1e
- MG1a
- MG1e
- Main area of Greater Pignut
- OV27
- W21d
- W21d-MG1e
- W21d-c
- W8d
- W8d-W21d
- Quadrat location

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Scale (at A3): 1:2,300

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Dallow Downs & Winsdon Hill - Luton



NVC

- CG3a
- CG3b
- CG3b-MG1e
- CG3b-W21d
- CG3d-MG1e
- MG1a
- MG1e
- Main area of Greater Pignut
- OV27
- W21d
- W21d-MG1e
- W21d-c
- W8d
- W8d-W21d
- Quadrat location

NextPerspectives™

Scale (at A3): 1:2,500

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