



## **European Site Conservation Objectives: Supplementary advice on conserving and restoring site features**

**Wye and Crundale Downs Special Area of Conservation (SAC)  
Site Code: UK0012831**



Devil's Needing Trough, Wye & Crundale Downs © Natural England

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## **About this document**

This document provides Natural England's supplementary advice about the European Site Conservation Objectives relating to Wye and Crundale Downs SAC.

This advice should therefore be read together with the SAC Conservation Objectives available [here](#).

You should use the Conservation Objectives, this Supplementary Advice and any case-specific advice given by Natural England when developing, proposing or assessing an activity, plan or project that may affect this site'

This Supplementary Advice to the Conservation Objectives presents attributes which are ecological characteristics of the designated species and habitats within a site. The listed attributes are considered to be those that best describe the site's ecological integrity and which, if safeguarded, will enable achievement of the Conservation Objectives. Each attribute has a target which is either quantified or qualitative depending on the available evidence. The target identifies as far as possible the desired state to be achieved for the attribute.

The tables provided below bring together the findings of the best available scientific evidence relating to the site's qualifying features, which may be updated or supplemented in further publications from Natural England and other sources. The local evidence used in preparing this supplementary advice has been cited. The references to the national evidence used are available on request. Where evidence and references have not been indicated, Natural England has applied ecological knowledge and expert judgement. You may decide to use other additional sources of information.

In many cases, the attribute targets shown in the tables indicate whether the current objective is to 'maintain' or 'restore' the attribute. This is based on the best available information, including that gathered during monitoring of the feature's current condition. As new information on feature condition becomes available, this will be added so that the advice remains up to date.

The targets given for each attribute do not represent thresholds to assess the significance of any given impact in Habitats Regulations Assessments. You will need to assess this on a case-by-case basis using the most current information available.

Some, but not all, of these attributes can also be used for regular monitoring of the actual condition of the designated features. The attributes selected for monitoring the features, and the standards used to assess their condition, are listed in separate monitoring documents, which will be available from Natural England.

These tables do not give advice about SSSI features or other legally protected species which may also be present within the European Site.

**If you have any comments or queries about this Supplementary Advice document please contact your local Natural England adviser or email [HDIRConservationObjectivesNE@naturalengland.org.uk](mailto:HDIRConservationObjectivesNE@naturalengland.org.uk)**

## About this site

### European Site information

<b>Name of European Site</b>	Wye and Crundale Downs Special Area of Conservation (SAC)
<b>Location</b>	Kent
<b>Site Map</b>	The designated boundary of this site can be viewed <a href="#">here</a> on the MAGIC website
<b>Designation Date</b>	1 April 2005
<b>Qualifying Features</b>	See section below
<b>Designation Area</b>	112.24ha
<b>Designation Changes</b>	N/A
<b>Feature Condition Status</b>	Details of the feature condition assessments made at this site can be found using Natural England's <a href="#">Designated Sites System</a>
<b>Names of component Sites of Special Scientific Interest (SSSIs)</b>	Wye and Crundale Downs SSSI
<b>Relationship with other European or International Site designations</b>	N/A

### Site background and geography

Wye and Crundale Downs SAC is located within the North Downs National Character Area ([NCA Profile 119](#)) which forms a chain of chalk hills extending from the Hog's Back in Surrey and ending dramatically at the internationally renowned White Cliffs of Dover. The settlement pattern is characterised by traditional small, nucleated villages, scattered farms and large houses with timber framing, flint walls and Wealden brick detailing. Twisting sunken lanes, often aligned along ancient drove roads, cut across the scarp and are a feature of much of the dip slope. The Kent Downs and Surrey Hills Areas of Outstanding Natural Beauty designations are testament to the qualities and natural beauty of the area.

The site contains a mosaic of different habitats including species-rich grassland, neutral grassland, scrub and woodland on chalk, and calcareous fen-meadow on the Gault Clay. The grassland and woodland support outstanding assemblage of rare and scarce plants, two of which are specially protected. It supports an outstanding assemblage of invertebrates including one of only two British populations of Black veined moth. Part of the site, the Devil's Kneading Trough, is of importance for its fossil remains and geomorphological interest which extends onto the Gault Clay plain.

## About the qualifying features of the SAC

The following section gives you additional, site-specific information about this SAC's qualifying features. These are the natural habitats and/or species for which this SAC has been designated.

### Qualifying habitats:

- **H6120 Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (important orchid sites); Dry grasslands and scrublands on chalk or limestone (important orchid sites)**

In the UK, examples of this feature are generally found on thin, well-drained, lime-rich soils associated with chalk and limestone. They occur predominantly at low to moderate altitudes in England and Wales, extending locally into upland areas in northern England, Scotland and Northern Ireland. Most of these agriculturally-unimproved calcareous grasslands are maintained by grazing.

At Wye and Crundale Downs SAC this Annex 1 habitat feature consists of CG4 *Brachypodium pinnatum* and CG5 *Bromus erectus* -*Brachypodium pinnatum*; Lowland calcareous grassland.

**Table 1: Supplementary Advice for Qualifying Features: H6210. Semi-natural dry grasslands and scrubland facies: on calcareous substrates (Festuco-Brometalia) (important orchid sites); Dry grasslands and scrublands on chalk or limestone (important orchid sites) \***

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
<b>Extent and distribution of the feature</b>	<b>Extent of the feature within the site</b>	Maintain the total extent of the feature at 52ha subject to natural changes.	<p>There should be no measurable reduction (excluding any trivial loss) in the extent and area of this feature, and in some cases, the full extent of the feature may need to be restored. The baseline-value of extent given has been generated using data gathered from the listed site-based surveys. Area measurements given may be approximate depending on the methods, age and accuracy of data collection, and as a result this value may be updated in future to reflect more accurate information.</p> <p>The extent of an Annex I habitat feature covers the sum extent of all of the component vegetation communities present and may include transitions and mosaics with other closely-associated habitat features. Where a feature is susceptible to natural dynamic processes, there may be acceptable variations in its extent through natural fluctuations.</p> <p>Where a reduction in the extent of a feature is considered necessary to meet the Conservation Objective for another Annex I feature, Natural England will advise on this on a case-by-case basis.</p>	<p>Natural England (2007) Definitions of Favourable Condition – Wye &amp; Crundale Downs SSSI (Available from Natural England on request)</p> <p>This attribute will be periodically monitored as part of Natural England's <a href="#">SSSI Condition Assessments</a></p>
<b>Extent and distribution of the feature</b>	<b>Spatial distribution of the feature within the site</b>	Maintain the distribution and configuration of the H6210 feature, including where applicable its component vegetation types, across the site	A contraction in the range, or geographic spread, of the feature (and its component vegetation and typical species, plus transitional communities) across the site will reduce its overall area, the local diversity and variations in its structure and composition, and may undermine its resilience to adapt to future environmental changes. This may also reduce and break up the continuity of a habitat within a site and how well its typical species are able to move around the site to occupy and use habitat. Such fragmentation can impact on their viability and the wider ecological composition of the Annex I habitat. Smaller fragments of habitat can typically support smaller and more isolated populations which are more vulnerable to extinction. These fragments also have a greater amount of open edge habitat which will differ in the amount of light, temperature, wind, and even noise that it receives compared to its interior. These conditions may not be suitable for some of the typical and more specialist species associated with the Annex I habitat feature.	Natural England (2007) Definitions of Favourable Condition – Wye & Crundale Downs SSSI (Available from Natural England on request)

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
<b>Structure and function (including its typical species)</b>	<b>Adaptation and resilience</b>	Maintain the feature's ability, and that of its supporting processes, to adapt or evolve to wider environmental change, either within or external to the site	<p>This recognises the increasing likelihood of natural habitat features to absorb or adapt to wider environmental changes. Resilience may be described as the ability of an ecological system to cope with, and adapt to environmental stress and change whilst retaining the same basic structure and ways of functioning. Such environmental changes may include changes in sea levels, precipitation and temperature for example, which are likely to affect the extent, distribution, composition and functioning of a feature within a site. The vulnerability and response of features to such changes will vary.</p> <p>Using best available information, any necessary or likely adaptation or adjustment by the feature and its management in response to actual or expected climatic change should be allowed for, as far as practicable, in order to ensure the feature's long-term viability.</p> <p>The overall vulnerability of this particular SAC to climate change has been assessed by Natural England as being low, taking into account the sensitivity, fragmentation, topography and management of its habitats.</p> <p>This means that some adaptation action for specific issues may be required, such as reducing habitat fragmentation, creating more habitat to buffer the site or expand the habitat into more varied landscapes and addressing particular management and condition issues. Individual species may be more or less vulnerable than their habitat itself. In many cases, change will be inevitable so appropriate monitoring would be required.</p>	NATURAL ENGLAND. (2015). Climate Change Theme Plan and supporting National Biodiversity Climate Change Vulnerability assessments ('NBCCVAs') for SACs and SPAs in England [Available at <a href="http://publications.naturalengland.org.uk/publication/4954594591375360">http://publications.naturalengland.org.uk/publication/4954594591375360</a> ].
<b>Structure and function (including its typical species)</b>	<b>Functional connectivity with wider landscape</b>	Maintain the overall extent, quality and function of any supporting features within the local landscape which provide a critical functional connection with the site	This recognises the potential need at this site to maintain or restore the connectivity of the site to its wider landscape in order to meet the conservation objectives. These connections may take the form of landscape features, such as habitat patches, hedges, watercourses and verges, outside of the designated site boundary which are either important for the migration, dispersal and genetic exchange of those typical species closely associated with qualifying Annex I habitat features of the site. These features may also be important to the operation of the supporting ecological	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>processes on which the designated site and its features may rely. In most cases increasing actual and functional landscape-scale connectivity would be beneficial.</p> <p>Where there is a lack of detailed knowledge of the connectivity requirements of the qualifying feature, Natural England will advise as to whether these are applicable on a case by case basis.</p>	
<b>Structure and function (including its typical species)</b>	<b>Soils, substrate and nutrient cycling</b>	Maintain the properties of the underlying soil types, including structure, bulk density, total carbon, pH, soil nutrient status and fungal: bacterial ratio, to within typical values for the habitat.	Soil is the foundation of basic ecosystem function and its properties strongly influence the colonisation, growth and distribution of those plant species which together form vegetation types, and therefore provides a habitat used by a wide range of organisms. Soil biodiversity has a vital role to recycle organic matter. Changes to natural soil properties may therefore affect the ecological structure, function and processes associated with this Annex I feature.	
<b>Structure and function (including its typical species)</b>	<b>Supporting off-site habitat</b>	Maintain the extent, quality and spatial configuration of land or habitat surrounding or adjacent to the site which is known to support the feature.	Include only where applicable. The structure and function of the qualifying habitat, including its typical species, may rely upon the continued presence of areas which surround and are outside of the designated site boundary. Changes in surrounding land-use may adversely (directly/indirectly) affect the functioning of the feature and its component species. This supporting habitat may be critical to the typical species of the feature to support their feeding, breeding, roosting, population dynamics ('metapopulations'), pollination or to prevent/reduce/absorb damaging impacts from adjacent land uses e.g. pesticide drift, nutrient enrichment.	
<b>Structure and function (including its typical species)</b>	Key structural, influential and/or distinctive species	<p>Maintain the abundance of the typical species listed below to enable each of them to be a viable component of the Annex 1 habitat;</p> <p>Constant and preferential plant species of CG4 <i>Brachypodium pinnatum</i>; calcareous grassland and CG5 <i>Bromus erectus</i> - <i>Brachypodium pinnatum</i>; calcareous grassland which</p>	<p>Some plant or animal species (or related groups of such species) make a particularly important contribution to the necessary structure, function and/or quality of an Annex I habitat feature at a particular site. These species will include;</p> <ul style="list-style-type: none"> <li>• <b>Influential</b> species which are likely to have a key role affecting the structure and function of the habitat (such as bioturbators (mixers of soil/sediment), grazers, surface borers, predators or other species with a significant functional role linked to the habitat)</li> <li>• <b>Site-distinctive</b> species which are considered to be a particularly special and distinguishing component of an Annex I habitat on a</li> </ul>	<p>Natural England (2007) Definitions of Favourable Condition – Wye &amp; Crundale Downs SSSI (Available from Natural England on request)</p> <p>This attribute will be periodically monitored as part of Natural England's <a href="#">SSSI Condition Assessments</a></p>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
		<p>forms part of the H6210 feature on this SAC.</p> <p>Vascular plant assemblage including:</p> <p>Late Spider Orchid <i>Ophrys fuciflora</i> (Sch. 8);            Early Spider Orchid <i>Ophrys sphegodes</i> (Sch.8);            Dwarf Milkwort <i>Polygala amarella</i>;            Lady Orchid <i>Orchis purpurea</i>;            Man Orchid <i>Aceras anthropophorum</i>;            Burnt-tip Orchid <i>Orchis ustulata</i>;            Musk Orchid <i>Herminium monorchis</i>;            Greater Broom-rape <i>Orobancha rapum-genistae</i></p>	<p>particular SAC.</p> <p>There may be natural fluctuations in the frequency and cover of each of these species. The relative contribution made by them to the overall ecological integrity of a site may vary, and Natural England will provide bespoke advice on this as necessary.</p> <p>The list of species given here for this Annex I habitat feature at this SAC is not necessarily exhaustive. The list may evolve, and species may be added or deleted, as new information about this site becomes available.</p>	
<b>Structure and function (including its typical species)</b>	<b>Vegetation community composition</b>	<p>Ensure the component vegetation communities of the H6210 feature are referable to and characterised by the following National Vegetation Classification types</p> <ul style="list-style-type: none"> <li>• CG4 <i>Brachypodium pinnatum</i>;</li> <li>• CG5 <i>Bromus erectus</i> - <i>Brachypodium pinnatum</i>;            Lowland calcareous grassland</li> </ul>	<p>This habitat feature will comprise a number of associated semi-natural vegetation types and their transitional zones, reflecting the geographical location of the site, altitude, aspect, soil conditions (especially base-status and drainage) and vegetation management. In the UK these have been categorised by the National Vegetation Classification (NVC).</p> <p>Maintaining or restoring these characteristic and distinctive vegetation types, and the range of types as appropriate, will be important to sustaining the overall habitat feature. This will also help to conserve their typical plant species (i.e. the constant and preferential species of a community), and therefore that of the SAC feature, at appropriate levels (recognising natural fluctuations).</p>	<p>Natural England (2007) Definitions of Favourable Condition – Wye &amp; Crundale Downs SSSI (Available from Natural England on request)</p> <p>This attribute will be periodically monitored as part of Natural England's <a href="#">SSSI Condition Assessments</a></p>
<b>Structure and function (including its</b>	<b>Vegetation community transitions</b>	Maintain the pattern of natural vegetation zonations/transitions	Transitions/zonations between adjacent but different vegetation communities are usually related to naturally-occurring changes in soil, aspect or slope. Such 'ecotones' retain characteristics of each	



Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
typical species)			bordering community and can add value in often containing species not found in the adjacent communities. Retaining such transitions can provide further diversity to the habitat feature, and support additional flora and fauna.	
Structure and function (including its typical species)	Vegetation: proportion of herbs (including <i>Carex</i> spp )	Maintain the proportion of herbaceous species within the range 40%-90%	A high cover of characteristic herbs, including sedges ( <i>Carex</i> species) is typical of the structure of this habitat type.	Natural England (2007) Definitions of Favourable Condition – Wye & Crundale Downs SSSI (Available from Natural England on request)  This attribute will be periodically monitored as part of Natural England's <a href="#">SSSI Condition Assessments</a>
Structure and function (including its typical species)	Vegetation: undesirable species	Maintain the frequency/cover of the following undesirable species to within acceptable levels and prevent changes in surface condition, soils, nutrient levels or hydrology which may encourage their spread;	There will be a range of undesirable or uncharacteristic species which, if allowed to colonise and spread, are likely to have an adverse effect on the feature's structure and function, including its more desirable typical species. These may include invasive non-natives such as <i>Cotoneaster</i> spp, or coarse and aggressive native species which may uncharacteristically dominate the composition of the feature.  Undesirable species include: <i>Cirsium arvense</i> ; <i>Cirsium vulgare</i> ; <i>Rumex crispus</i> ; <i>Rumex obtusifolius</i> ; <i>Senecio jacobaea</i> ; <i>Urtica dioica</i> .	Natural England (2007) Definitions of Favourable Condition – Wye & Crundale Downs SSSI (Available from Natural England on request)  This attribute will be periodically monitored as part of Natural England's <a href="#">SSSI Condition Assessments</a>
Supporting processes (on which the feature relies)	Air quality	Maintain as necessary, the concentrations and deposition of air pollutants to at or below the site-relevant Critical Load or Level values given for this feature of the site on the Air Pollution Information System ( <a href="http://www.apis.ac.uk">www.apis.ac.uk</a> ).	This habitat type is considered sensitive to changes in air quality. Exceedance of these critical values for air pollutants may modify the chemical status of its substrate, accelerating or damaging plant growth, altering its vegetation structure and composition and causing the loss of sensitive typical species associated with it.  Critical Loads and Levels are recognised thresholds below which such harmful effects on sensitive UK habitats will not occur to a significant level, according to current levels of scientific understanding. There are critical levels for ammonia (NH <sub>3</sub> ), oxides of nitrogen (NO <sub>x</sub> ) and sulphur dioxide (SO <sub>2</sub> ), and critical	More information about site-relevant Critical Loads and Levels for this SAC is available by using the 'search by site' tool on the Air Pollution Information System ( <a href="http://www.apis.ac.uk">www.apis.ac.uk</a> ).  <a href="#">NATURAL ENGLAND. (2014) Wye &amp; Crundale Downs SAC Site Improvement Plan</a>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>loads for nutrient nitrogen deposition and acid deposition. There are currently no critical loads or levels for other pollutants such as Halogens, Heavy Metals, POPs, VOCs or Dusts. These should be considered as appropriate on a case-by-case basis.</p> <p>Ground level ozone is regionally important as a toxic air pollutant but flux-based critical levels for the protection of semi-natural habitats are still under development. It is recognised that achieving this target may be subject to the development, availability and effectiveness of abatement technology and measures to tackle diffuse air pollution, within realistic timescales.</p> <p>There are concerns about the risk of atmospheric nitrogen deposition which have been flagged as needing further investigation but currently the critical load for the site is within acceptable limits.</p>	
<b>Supporting processes (on which the feature relies)</b>	<b>Conservation measures</b>	Restore the management measures (either within and/or outside the site boundary as appropriate) which are necessary to restore structure, functions and supporting processes associated with the feature	<p>Active and ongoing conservation management is needed to protect, maintain or restore this feature at this site. Further details about the necessary conservation measures for this site can be provided by contacting Natural England.</p> <p>This information will typically be found within, where applicable, supporting documents such as Natura 2000 Site Improvement Plan, Site Management Strategies or Plans, the Views about Management Statement for the underpinning SSSI and/or management agreements.</p> <p>The site improvement plan identifies overgrazing, deer and inappropriate scrub control as a pressure. Additional scrub control work is required.</p>	<a href="#">NATURAL ENGLAND. (2014) Wye &amp; Crundale Downs SAC Site Improvement Plan</a>
<b>Version Control</b>				
N/A				
<b>Variations from national feature-framework of integrity-guidance:</b> N/A				