# **Definitions of Favourable Condition for designated features of interest**



These definitions relate to all designated features on the SSSI, whether designated as SSSI, SPA, SAC or Ramsar features. Cromwell House 15 Andover Road WINCHESTER SO23 7BT

	Names of design	gnated intern	ational sites	
Special Area	of Conservation (SAC)			
Special Prote	ection Area (SPA)			
Ramsar				
	Relationship b	etween site d	lesignations	
	•			
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	Quality as	surance info	rmation	
Checked by	Name		Date	
	Caroline Svendsen		28 June 2013	
	Signature			

Name of Site of Special Scientific Interest (SSSI)

Greenham and Crookham Commons

## **Definitions of Favourable Condition: notes for users**

## **Definitions of Favourable Condition**

The definitions comprise one or more condition definitions for the special interest features at this site. These are subject to periodic review and may be updated to reflect new information or knowledge. They will be used by Natural England to determine if a site is in a favourable condition. The standards for favourable condition have been developed and are applied throughout the UK.

Standards for favourable condition are defined with particular reference to the specific designated features listed in Table 1, and are based on a selected set of attributes for features which most effectively define favourable condition as set out in Tables 2, 2a and 3. When an SSSI's features meet these attributes, then they are said to be in 'favourable condition'.

# **Explanatory text for Tables 2 and 3**

Tables 2, 2a and 3 set out the measures of condition which we will use to provide evidence to support our assessment of whether features are in favourable condition. They have been tailored by local staff to reflect the particular characteristics and site-specific circumstances of individual sites. Quality Assurance has ensured that such site-specific tailoring remains within a nationally consistent set of standards. The tables include an audit trail to provide a summary of the reasoning behind any site-specific targets etc. In some cases the requirements of features or designations may conflict; the detailed basis for any reconciliation of conflicts on this site may be recorded elsewhere.

## **Use under the Habitats Regulations**

The Definitions of Favourable Condition (DFCs) are used to periodically measure and assess the condition of both notified SSSI features and designated European Site features.

Where SSSIs also form part of a European Site (such as a SAC or SPA), a separate document containing specific European Site Conservation Objectives will have been prepared. These objectives are those referred to in the Conservation of Habitats and Species Regulations 2010 (the "Habitats Regulations") and the Habitats Directive 1992. They are for use when either the appropriate nature conservation body or a competent authority is required to make an 'appropriate assessment' of the likely effects of a proposed plan or project on the integrity of a European Site under the relevant parts of the respective legislation. The European Site Conservation Objectives are available at www.naturalengland.org.uk.

The concepts of 'site integrity' and 'favourable condition' are similar and the assessment of a site's condition will measure attributes that also represent aspects of a site's ecological integrity. However, the periodic determination of a site's condition is separate from a judgement about the effect upon a site's overall integrity. This is because the DFCs do not represent a comprehensive or definitive list of all of the elements that might contribute to site integrity, merely those that are most appropriate to monitor in order to rapidly determine site condition. The full range of factors that are components of a site's integrity, and which may need to be considered by an appropriate assessment, will be specified in the European Site Conservation Objectives. Some of the information contained within the DFCs may however contribute to such assessments.

Table 1 Individual designated interest features

BAP Broad Habitat type / Geological Site Type	Specific designated features	Explanatory description of the feature for clarification	erest	interest	SPA qualifying interest features dependency on specific habitats			Ramsar criteria applicable to specific habitats			
			SSSI notified interest features	SAC qualifying i features	Annex 1 species	Migratory species	Waterfowl assemblage	1a Wetland characteristics	2a Hosting rare species &c	3a 20000 waterfowl	3c 1% of population
Lowland heath	H2 Calluna vulgaris – Ulex minor heath	Heather – dwarf gorse heath	*								
Lowland neutral grassland	MG5 Cynosurus cristatus – Centaurea nigra grassland	Unimproved neutral grassland	*								
Lowland acid grassland	U1 Festuca ovina-Agrostis capillaris - Rumex acetosella grassland and U4 Agrostis capillaris-Galium saxatile grassland	Unimproved acid grassland	*								
Lowland broadleaved woodland	W5 Alnus glutinosa – Carex paniculata woodland, W7 Alnus glutinosa – Fraxinus excelsior – Lysimachia nemorum woodland, W10 Quercus robur- Pteridium aquilinum – Rubus fruticosus woodland	Valley alder woodland and oak-bramble woodland including populations of locally scarce plants.	*								

NB. Features where asterisks are in brackets (\*) indicate habitats which are not notified for specific habitat interest (under the relevant designation) but because they support notified species.

Table 2 Habitat extent objectives

		To maintain the designated features in favourable condition, which is defined in part in relation to a balance of habitat
Extent - Dynamic balance	extents (extent attribute). Favourable condition is defined at this site in terms of the following site-specific standards.	
	On this site favourable condition requires the maintenance of the extent of each habitat type (either designated habitat	
	or habitat supporting designated species). Maintenance implies restoration if evidence from condition assessment	
		suggests a reduction in extent.

Habitat Feature	Estimated extent and date of	Site Specific Target	Comments
	data source/estimate	range and Measures	
Lowland heath	Approximately 28 ha within the boundary of the former airbase based on habitat maps produced at time of last revision of the SSSI (1994). This includes areas of grass –heath transitional in character between heath and grassland and areas of bare, stony ground with colonising vegetation. Approximately 11 ha outside the former airbase based on habitat map drawn in 1982. This has subsequently been increased through scrub and secondary woodland clearance.	No reduction in the overall extent of open heath.	The extent of open heath habitat was lower than desirable at the time of the last revision of the SSSI boundary. In particular, those parts of Crookham Common outside the former airbase and other parts of the heath outside the airbase had higher tree cover than desirable.  Estimation of habitat extent is difficult at this site as the extent of heath and grassland has increased considerably through restoration of former hard standings and structures on the former airbase. And there is a dynamic relationship between scrub and grassland. The key aspect is that there should be no overall reduction in the extent of heath, grassland, or grass/heath mosaic.
Lowland acid grassland	No separate figure – included in area for heath above.	No reduction in the overall extent of acid grassland	The lowland heath, neutral and acid grassland form a complex mosaic over much of the former airbase and it is practically impossible to judge the relative proportion of the H2 and U1 types of vegetation in this part of the site. The key issue is that good representative examples of both community types should be widespread across the site. There should be no significant trend towards one habitat type predominating over the other – such change should be regarded as indicating unfavourable condition.
Lowland broadleaf woodland	Approximately 64 ha, based on habitat maps produced 2011 to 2013, which should be regarded as the baseline.	No reduction in the extent of long-established woodland.	This refers to areas of W5, W7 and W10 type woodland only, not to areas of secondary woodland, scrub and plantation of low nature conservation interest.

#### **Audit Trail**

### Rationale for habitat extent attribute

(Include methods of estimation (measures), and the approximate degree of change which these are capable of detecting).

The boundary of the SSSI was amended in 1994 when the SSSI was extended to include the areas of heath and grassland between the runways of the former airbase, as well as parts of Crookham Common. The SSSI boundaries are now difficult to detect in some areas where the former runways and hardstandings have been restored to heathland and grassland.

## Rationale for site-specific targets (including any variations from generic guidance)

There are no habitat maps available which show the relative extent on habitats at the time of last SSSI revision. To address this, habitat maps have been prepared for each management compartment under the management control of West Berks Council. These should be used as the baseline when assessing the targets for habitat extent as these represent the best available information. The habitat maps are located here: <a href="http://www.westcombe.org.uk/index.html">http://www.westcombe.org.uk/index.html</a> In addition, there are privately-owned parts of the SSSI which are entirely occupied by the broadleaved woodland interest feature.

#### Other Notes

Nightjar, Dartford warbler and woodlark are regular visitors and may be breeding on site but are not listed as SSSI selection criteria. However, the habitat requirements of these species are incorporated in the table below. Several Nationally Scarce plants are present: *Bryum pallescens, Cladonia cariosa, Riccia subbifurca* and *Minuartia hybrida*. Their presence is of interest but they do not qualify as specific designated interest features.

# Table 3a Site specific Habitat/geological condition objectives

To maintain the **lowland heath and acid grassland mosaic at Greenham and Crookham Commons SSSI** in favourable condition, with particular reference to relevant specific designated interest features. Favourable condition is defined at this site in terms of the following site-specific standards:

## Site-specific details of any geographical variation or limitations (where the favourable condition standards apply)

The attributes below apply to the areas of open acid grassland, heath, and grass/heath mosaic but not the areas of neutral grassland. Note that the targets apply to the areas within the SSSI boundary only, not to the areas of heath and grassland created on the former runways, hard standings etc. outside the SSSI boundary.

Site-specific star	Site-specific standards defining favourable condition						
Criteria feature	Attribute	Measure	Site-specific Targets	Comments	Use for Condition Assessment?		
Lowland heath and acid grassland	Vegetation structure: growth phase composition for ericaceous spp.	Visual assessment of cover, using structured walk or transects	Presence of bell heather, cross-leaved heath and/or heather in all stages of growth.	This aspect is less important within the former airbase where the maintenance of low, open early-stage heath is of greater importance in maintaining the special interest than in the areas of more mature heath in the peripheral areas. In those areas no one growth form should be dominant, the heath should be structurally diverse and habitat conditions should be conducive to the establishment of new generations of heather plants.	yes		
	Vegetation composition: dwarf shrubs	Visual assessment of cover, using structured walk or transects	At least 2 species of dwarf ericaceous shrubs present and at least frequent	If not meeting target may indicate excessive shading, lack of management, burning, disturbance or grazing.	yes		

Criteria feature	Attribute	Measure	Site-specific Targets	Comments	Use for Condition Assessment?
Lowland heath and acid grassland		Visual assessment of cover, using structured walk or transects	10% cover of the area of the feature should consist of exposed bare ground.	A significant aspect of the special interest of Greenham and Crookham Commons is the occurrence of an assemblage of species characteristic of bare ground, short, open turf and early stages of succession. The assemblage includes low-growing annual plants, lichens and bryophytes of bare, stony places as well as warmth-loving invertebrates. Continued availability of bare ground and very short, open sward is key to ensuring this aspect is maintained, particularly as this aspect diminishes in the restoration areas outside the SSSI. It should ideally be scattered through the vegetation and be present mainly in open, sunny places. Exclude litter or bryophyte mats or heavily trampled soil. Clear indications of damage or disturbance may be considered significant damage but discretion is required as limited disturbance to re-establish the early successional phase is desirable.	yes
	cover of dwarf shrubs	Visual assessment of cover, using structured walk or transects.	Dwarf shrub cover 25-75%.	Dwarf shrubs mean Calluna vulgaris, Erica cinerea, E. tetralix, Genista anglica, Ulex minor and Vaccinium myrtillus.	yes
	Vegetation structure: litter	Visual estimate of litter cover	Total extent in the open grass/heath mosaic <25% cover	If exceeding target may indicate that grazing/cutting management is inadequate.	yes
	average height	Sward height excluding <i>Pteridium aquilinum</i> in April-end July.	1-5 cm in areas predominantly acid grassland or grass-heath mosaic.	It is critically important for the maintenance of the special interest to ensure that extensive areas of short, open vegetation are maintained. Many of the species which contribute to the special interest are intolerant of even low levels of competition. Nevertheless, some variation and the presence of taller vegetation is desirable to provide structural diversity.	yes

Criteria feature	Attribute	Measure	Site-specific Targets	Comments	Use for Condition Assessment?
Lowland heath and acid grassland	Vegetation composition: grasses sedges and rushes	Visual assessment of cover, using structured walk or transects	At least 1 species at least frequent and 2 species at least occasional throughout the open heath from the following: Carex panicea, Carex binervis, Carex caryophyllea, Carex pilulifera, Danthonia decumbens.	It is desirable that grasses and sedges continue to be a prominent component of the habitat mosaic. But a trend of decreasing cover of ericaceous species and increasing dominance by grasses, sedges and rushes may indicate excessive grazing, nutrient enrichment, or damage by fire and should be interpreted as indicating unfavourable condition.	yes
	Vegetation composition: desirable forbs	Record presence using structured walk	At least 2 of the following species at least occasional in the open heath: Campanula rotundifolia, Cladonia spp., Euphrasia spp., Galium saxatile, Hypochaeris radicata, Lathyrus linifolius (=montanus), Linum catharticum, Pilosella officinarum Polygala serpyllifolia, Potentilla erecta, Rumex acetosella, Succisa pratensis, Veronica officinalis, Viola riviniana.	These species are characteristic of good quality lowland dry heath and their presence will indicate that suitable habitat conditions are being maintained. It is particularly important that light-demanding species of very short vegetation continue to form a prominent component of the habitat as these add significantly to the special interest of the former airbase. The former airbase is also very important for its diversity of bryophytes. Notable aspects include one of the largest know populations of <i>Archidium alternifolium</i> which occurs in areas of very short, open heath	yes
	Indicators of local distinctiveness	Visual assessment	Notable species present: Bryum pallescens Cladonia cariosa Cuscuta epithymum Minuartia hybrida Orchis morio Riccia subifurcata Saxifraga tridactylites Scleranthus annuus Spiranthes spiralis Trifolium striatum	It is desirable that these plants are present as they contribute significantly to the special nature conservation interest but their presence is not essential for the habitat to be considered to be in favourable condition.	no

Criteria feature	Attribute	Measure	Site-specific Targets	Comments	Use for Condition Assessment?
Lowland heath and acid grassland	Negative indicators: cover of gorse	Visual assessment of cover, using structured walk or transects/aerial photos	1-10% cover of <i>Ulex</i> europaeus.	Gorse is of importance in providing habitat for Dartford warbler, provides cover for reptiles and supports a rich invertebrate fauna. So the presence of some gorse is desirable. However, gorse can be invasive and can affect the soil characteristics; high cover is undesirable and spread at the expense of open heath and grassland should be considered damaging.	yes
	Negative indicators: cover of bracken	Visual assessment	No more than 5% of the open heath dominated by closed canopy stands of bracken.	Bracken can be beneficial for a range of invertebrates and may provide cover and basking sites for reptiles but where it becomes dominant over large areas can result in loss of diversity.	yes
	Negative indicators: weeds	Visual assessment of cover, using structured walk or transects	< 1 % cover of ragwort, nettle, thistles and other herbaceous spp indicating disturbance or nutrient input such as Digitalis purpurea, Epilobium spp., Ranunculus repens, Rumex obtusifolius, Plantago major, Senecio jacobaea, Urtica dioica in the open heath.	excessive disturbance, nutrient input or burning.	yes
	Sward composition: negative indicator species	Cover of coarse grasses eg Holcus lanatus, Dactylis glomerata, Arrhenatherum elatius in April-end July.	No more than 10% cover	Increasing cover of coarse grasses may indicate problems of eutrophication, nutrient input as a result of burning, or insufficient removal of biomass eg under-grazing.	Yes
	Negative indicators: non-native species	Visual assessment of cover, using structured walk or transects	Exotic species rare or absent, including <i>Rhododendron</i> ponticum, Gaultheria shallon, Fallopia japonica.	Many exotic species can be very invasive in lowland heaths, leading to loss of diversity.	yes
	Negative indicators: trees and scrub	Visual assessment of cover, using structured walk or transects/aerial photos.	< 5% cover of trees & scrub not including gorse or creeping willow but including grey willow, hawthorn, rose and bramble in open heath.	If exceeding target may indicate insufficient grazing and control of encroachment.	yes

#### **Audit Trail**

## Rationale for limiting standards to specified parts of the site

## Rationale for site-specific targets (including any variations from generic guidance)

The heath and acid grassland habitats are considered together as they generally occur as a complex mosaic at this site making assessment of the separate habitats impractical.

# Rationale for selection of measures of condition (features and attributes for use in condition assessment)

(The selected vegetation attributes are those considered to most economically define favourable condition at this site for the broad habitat type and any dependent designated species).

#### **Other Notes**

The heath and acid grassland mosaic within the former airbase is far from typical and it is this special character which contributes so significantly to the overall special interest of the SSSI. The targets have been adjusted to reflect this.

Areas which were inside and outside the former airbase have significantly different character and composition relating to the different management regimes. For example, *Deschampsia flexuosa* is prominent outside the airbase but rare inside whilst the assemblage of annual plants and species of very short vegetation which add to the special character of the airbase is largely absent outside. The *Danthonia decumbens-Carex caryophyllea* association which is so prominent on the airbase is also absent from the heath outside. These aspects should be borne in mind when assessing habitat condition.

# Table 3b Site specific Habitat/geological condition objectives

To maintain the **unimproved neutral grassland habitat at Greenham and Crookham Commons SSSI** in favourable condition, with particular reference to relevant specific designated interest features. Favourable condition is defined at this site in terms of the following site-specific standards:

# Site-specific details of any geographical variation or limitations (where the favourable condition standards apply)

The targets apply to the areas of neutral grassland which are present between the former runways and around the fringes of the former airbase. The neutral grassland mostly occurs as patches which grade into heath or acid grassland.

Site-specific sta	Site-specific standards defining favourable condition							
Criteria feature	Attribute	Measure	Site-specific Targets	Comments	Use for Condition Assessment?			
Unimproved neutral grassland similar in character to NVC type MG5		Extent of bare ground (not rock) distributed through the sward, visible without disturbing the vegetation in late May - late July.	< 5%	If outside target there may be problems with stock management eg poaching, supplementary feeding, or possibly effects of flooding.	Yes			
	Sward structure: litter	Cover of litter where in a more or less continuous layer, distributed either in patches or in one larger area in late May - late July.	more than 25% of	Outside target indicates biomass removal is insufficient eg insufficient grazing.	Yes			
	Sward structure: average height	Sward height in mid-May - late July.	2-5cm	Sward height above upper target shows that habitat is not being managed sufficiently eg lack of or insufficient grazing or cutting or if below lower target, is being overgrazed.	Yes			
	Sward composition: grass/herb ratio	Proportion of non-Graminae ("herbs"), in mid- May – late July.	40-90% herbs	Low proportion outside target indicates eutrophication, usually from fertilisers, or insufficient removal of biomass, leading to dominance by grasses.	Yes			

Criteria feature	Attribute	Measure	Site-specific Targets	Comments	Use for Condition Assessment?
	Sward composition: positive indicator species	Frequency of positive indicator species in mid May - late July:  Agrimonia eupatoria, Anthyllis vulneraria, Centaurea nigra, Cirsium acaule, Euphrasia spp., Galium verum, Lathyrus pratensis, Leontodon hispidus/L. saxatilis, Leucanthemum vulgare, Linum catharticum, Lotus corniculatus, Pimpinella saxifraga, Primula veris, Rhinanthus minor, Sanguisorba minor, small blue-green Carex spp. (leaves less than 5mm wide) (eg C. flacca, C. panicea), Succisa pratensis.	vegetation types.	It should be borne in mind that the grassland at Greenham and Crookham Commons is far from typical of the community given its relatively recent origin and management history. Many species which are normally very common in the community are rare or absent whilst species of short turf such as <i>Hieracium pilosella</i> , <i>Anthyllis vulneraria</i> and <i>Polygala vulgaris</i> are prominent. A notable feature of the grassland is the presence of plants indicative of calcareous soils thought to be the result of influence from the concrete runways, including <i>Cirsium acaule</i> , <i>Bromus erectus</i> , <i>Briza media</i> , <i>Linum catharticum</i> .	yes
	Sward composition: negative indicator species	Frequency and cover of negative indicator species in mid May - late July: Anthriscus sylvestris, Cirsium arvense, Cirsium vulgare, Galium aparine, Plantago major, Rumex crispus, Rumex obtusifolius, Senecio jacobea, S. aquaticus, Urtica dioica.		Invasive species such as these may indicate problems of eutrophication and disturbance from various sources when outside target eg poaching, stock feeding. Discretion is required if Senecio is above target – may not be a problem if control measures are in place.	yes

Criteria feature	Attribute	Measure	Site-specific Targets	Comments	Use for Condition Assessment?
grassland similar in	negative indicator species	waterlogging:	No species making up more than 5% of the sward.	Although parts of the site have wet hollows which add to the overall habitat mosaic, an increase in the abundance of these species is likely to indicate increasing waterlogging or winter flooding which may lead to undesirable shifts in sward composition.	yes
	negative indicator species	Cover of all tree and scrub species including gorse, considered together.	<5% in the grassland.	If exceeding target habitat may not be being managed sufficiently eg inadequately grazed or insufficient control of encroachment.	yes

# Table 3c Site specific Habitat/geological condition objectives

To maintain the **lowland broadleaf woodland habitat at Greenham and Crookham Commons SSSI** in favourable condition, with particular reference to relevant specific designated interest features. Favourable condition is defined at this site in terms of the following site-specific standards:

## Site-specific details of any geographical variation or limitations (where the favourable condition standards apply)

The attributes below apply to the areas of long-established woodland only, not to the areas of secondary woodland dominated by birch and oak, or to areas of plantation woodland. Alder woodland is for the most part restricted to Aldernbridge Gully, Handpost Gully, Ballshill Gully, Brushwood Gully, Goldfinch Bottom, Thornford Gully and alongside the River Enborne.

Site-specific standards defining favourable condition								
Criteria feature	Attribute	Measure	Site-specific Targets	Comments	Use for Condition Assessment?			
Lowland broadleaf woodland of NVC types W5, W7 and W10	Composition	Assess by field survey using structured walk and/or transects.	At least 95% of cover in any one layer of site-native or acceptable naturalised species.  Death, destruction or replacement of native woodland species through effects of introduced fauna or other external unnatural factors not more than 10% by number or area in a five year period.	Sycamore is present and is acceptable as a minor component but it is undesirable that it forms dense patches or makes up more than 5% of the canopy. Rhododendron, laurel, Gaultheria and bamboo are all undesirable. Himalayan balsam should be considered a threat to the special interest if its presence is resulting in loss of lower growing species in the ground layer. Long-established garden escapes are present in places; these should only be considered as indicating unfavourable condition if they are having clear detrimental effects on the native ground flora.	Yes			
	Structure	Assess by field survey using structured walk and/or transects.	Ground flora present over at least 80% of total woodland area.  Canopy cover present over 75-90% of stand area.	The canopy structure generally reflects the high forest management of the site. An increase in structural diversity may be beneficial in parts but it is not considered essential for the feature to be assessed as being in favourable condition.	Yes			

Criteria feature	Attribute	Measure	Site-specific Targets	Comments	Use for Condition Assessment?
Lowland broadleaf woodland of NVC types W5, W7 and W10	Indicators of local distinctiveness	using structured walk		The presence of notable species is desirable and they contribute to the conservation interest of the feature but the habitat should not be assessed as being in unfavourable condition if they are not found.	yes
	Regeneration potential	Assess by field survey using structured walk and/or transects.	Signs of seedlings growing through to saplings to young trees at sufficient density to maintain canopy cover (or equivalent re-growth from coppice stumps).  No planting.	It is acceptable for the density of tree regeneration to be low as long as there is sufficient to maintain canopy cover.	yes
			Audit Trail		
		Rationale for li	miting standards to specif	ied parts of the site	
	Ratior	nale for site-specific	targets (including any vari	ations from generic guidance)	
		s are those considere		ttributes for use in condition assessment the favourable condition at this site for the buspecies).	
			Other Notes		
			Other Notes		
1					

# Annex 2 Location of features by unit

Features	units	1	2	3	4	5
H2 type heath					$\sqrt{}$	$\checkmark$
MG5 type grassland	V					
U1 & U4 type grassland						
Lowland broadleaf woodland	V	V			$\sqrt{}$	