



European Site Conservation Objectives: supplementary advice on conserving and restoring site features

**Wealden Heaths [Phase 2] Special Protection Area (SPA)
Site code: UK9012132**



The central part of the Range Danger Area at Woolmer Forest. Photo: Graham Steven, Natural England

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About this document

This document provides Natural England's supplementary advice for the European Site Conservation Objectives relating to Wealden Heaths Phase 2 SPA. This advice should therefore be read together with the SPA Conservation Objectives available [here](#).

Where this site overlaps with other European Site(s), you should also refer to the separate European Site Conservation Objectives and Supplementary Advice (where available) provided for those sites.

This advice updates and replaces a previous draft version dated January 2019 following the receipt of comments from the site's stakeholders.

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

About this site

European Site information

Name of European Site	Wealden Heaths Phase II Special Protection Area (SPA)
Location	Hampshire, Surrey, West Sussex
Site Maps	The designated boundary of this site can be viewed here on the MAGiC website
Designation Date	16 March 2008
Qualifying Features	See section below
Designation Area	2053.83 ha
Designation Changes	n/a
Feature Condition Status	Details of the feature condition assessments made at this site can be found using Natural England's Designated Sites System
Names of component Sites of Special Scientific Interest (SSSIs)	Woolmer Forest SSSI; Broxhead and Kingsley Commons SSSI; Bramshott and Ludshott Commons SSSI; Devil's Punch Bowl SSSI
Relationship with other European or International Site designations	Part of this SPA overlaps with Woolmer Forest SAC .
Other information	Natura 2000 Standard Data Form for Wealden Heaths Phase II SPA

Site background and geography

The Wealden Heaths Phase II SPA is situated on an arc of hilly country on the edge of the Weald. The area runs parallel to the South Downs and is located on the borders of Hampshire, Surrey and West Sussex.

The underlying geology is composed of Cretaceous sandstones and ironstone, which give rise to predominantly acid soils. These are often sandy and free-draining but clay and silt layers produce poorly-drained areas where streams and wetland habitats can be found. The landscape is largely rural and is characterised by a prominent escarpment with broad, steep-sided valleys and low, rounded hills with a mixture of heaths, oak and birch woodland, mature conifer woodlands, pastures and wetlands.

The component parts of the SPA have extensive areas of lowland heath which is similar in character to the nearby heathland complexes at Thursley, Hankley and Frensham Commons SPA and the Thames Basin Heaths SPA. The Wealden Heaths SPA is situated in the [Wealden Greensand National Character Area](#) (NCA).

Large parts of the SPA are used for military training, including live-firing, and so public access is restricted. However, there are also areas in the SPA which are very popular destinations for a variety of recreational uses including walking, birdwatching, orienteering and cycling. Some of the land is registered common land but traditional common land management practices, including grazing, have largely died out in the area. Nevertheless, there are strong cultural and historical links to the past reflected in the landscape.

About the qualifying features of the SPA

The following section gives you additional, site-specific information about this SPA's qualifying features. These are the individual species of wild birds listed on Annex I of the European Wild Birds Directive, and/or the individual regularly-occurring migratory species, and/or the assemblages (groups of different species occurring together) of wild birds for which the SPA was classified for.

Qualifying individual species listed in Annex I of the Wild Birds Directive

During the breeding season the SPA regularly supports:

- **Dartford warbler *Sylvia undata***

When classified, the SPA supported 16 pairs (5 year peak mean 1989-1993) which represented 1.7% of the GB population.

The Wealden Heaths Phase II SPA regularly supports internationally important numbers of Dartford warbler. The SPA is close to the northern limit of the range of this species in Europe and numbers fluctuate depending upon winter and spring weather conditions. The species does not migrate and winter survival and breeding success can be badly affected by very cold winters or prolonged periods of snow cover. Cold, damp spring weather can also have damaging effects.

Dartford warbler are strongly associated with lowland heaths with extensive patches of mature gorse with an abundance of favoured invertebrate prey items such as spiders. However, they will also nest in areas of mature heather, clearings in forestry plantations and patches of bracken. Dartford warblers are widely distributed across the SPA and the site provides extensive areas of suitable habitat. Particularly large numbers of birds are regularly recorded at Woolmer Forest and Ludshott Common and these sites represent important regional strongholds for the species.

- **Nightjar *Caprimulgus europaeus***

When classified, the SPA supported 43 pairs (5 year peak mean 1989-1993) which represented 1.4% of the GB population.

Wealden Heaths Phase II SPA regularly supports internationally important numbers of nightjar. The European population of this species is thought to have undergone a significant decline in the past as a result of loss of suitable habitat. However, data suggests that there has been a trend of increasing numbers in recent years, which may be due to better protection of core breeding areas and improved management of lowland heathland. Nightjars are migratory, spending the winter months feeding in parts of Africa.

The species is considered to be vulnerable to the effects of long-term climate change on drought-prone areas of Africa and desert expansion. Nightjar regularly utilise areas across the SPA for nesting and feeding. Favoured areas of habitat are areas of heath with high structural diversity including bare patches or short vegetation, but they will also utilise clearings in woods, broad rides in conifer plantations and sparsely vegetated areas. Particularly large numbers of nightjar are regularly recorded in the SPA at Woolmer Forest and Bramshott Common but they occur widely across the site.

- **Woodlark *Lullula arborea***

When classified, the SPA supported 15 pairs (5 year peak mean 1989-1993) which represented 4.3% of the GB population.

Woodlark regularly utilise the Wealden Heaths Phase II SPA in internationally important numbers. This species suffered a serious population decline and contraction in range in the UK up until the latter part of the 20th century. The population is now recovering and the species is colonising new areas as a result of

protection and expansion of lowland heaths. The woodlark has also benefited from rotational management of conifer plantations where it can utilise recently felled areas and areas of young re-growth for nesting. Woodlarks favour areas of short vegetation or sparsely-vegetated areas on heaths with scattered trees for use as song-posts. They feed on seeds and small invertebrates.

Numbers of woodlarks tend to fluctuate over time in relation to successional development of heaths and plantations, with large numbers often present following heath fires or tree clearance. Woodlark are regularly recorded across most of the SPA with particularly large numbers often present at Woolmer Forest and Broxhead Common.

Site-specific seasonality of SPA features

The table below highlights in grey those months in which significant numbers of each mobile qualifying feature are most likely to be present at the SPA during a typical calendar year. This table is provided as a general guide only.

Unless otherwise indicated, the months shown below are primarily based on information relating to the general months of occurrence of the feature in the UK. Where site-based evidence is available and has been used to indicate below that significant numbers of the feature are typically present at this SPA outside of the general period, the site-specific references have been added to indicate this.

Anyone considering projects and plans scheduled in the periods highlighted in grey would benefit from early consultation with Natural England given the greater scope for there to be likely significant effects that require consideration of mitigation to minimise impacts to qualifying bird features during the principal periods of site usage by those features. The months which are *not* highlighted in grey are not ones in which the features are necessarily absent, rather that features may be present in less significant numbers in typical years. Furthermore, in any given year, features may occur in significant numbers in months in which typically they do not. Thus, applicants should not conclude that projects or plans scheduled in months not highlighted in grey cannot have a significant effect on the features. There may be a lower likelihood of significant effects in those months which nonetheless will also require prior consideration.

Any assessment of potential impacts on the features must be based on up-to-date count data and take account of population trends evident from these data and any other available information. Additional site-based surveys may be required.

Feature	Season	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Site-specific references where available
Dartford Warbler	Breeding													Dartford warbler generally start to breed in April or May. They are resident and may be present on sites all year round but individual birds appear to be far more mobile outside the breeding season and may travel some distance to locate good quality habitat.
Nightjar	Breeding													Nightjar are migratory and usually arrive in southern England in May or early June but birds arriving later may still be sensitive to disturbance well into September. Most birds will have left the UK by late September.
Woodlark	Breeding													Woodlark are often observed beginning to seek out breeding territories as early as February at this site and so will be sensitive to disturbance over a longer period of the year than Dartford warbler and nightjar. Woodlark will often have 2 broods in a season and so may have dependent young in late June. Birds may remain on site all year round but they are much less sensitive to disturbance outside the breeding period.

Guide to terms:

Breeding – present on a site during the normal breeding period for that species

Non-breeding - present on a site outside of the normal breeding period for that species (includes passage and winter periods).

Summer – the period generally from April to July inclusive

Winter - the period generally from November to February inclusive.

Table 1: Supplementary Advice for Qualifying Features: A224. *Caprimulgus europaeus* European nightjar (Breeding); A246. *Lullula arborea* Woodlark (Breeding)

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
Supporting habitat (both within and outside the SPA): function/supporting process	Conservation measures	Maintain the management or other measures (whether within and/or outside the site boundary as appropriate) necessary to maintain and restore where possible, the structure, function and/or the supporting processes associated with Nightjar, Woodlark and their supporting habitats.	<p>Active and ongoing habitat management is usually required to protect, maintain and restore where possible, populations of breeding nightjar in lowland heathland situations. Other conservation and/or restoration measures may also be required, and in some cases, these measures may apply to areas outside of the designated site boundary. 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 SSSIs and/or management agreements.</p> <p>Habitat management should aim to maintain structural diversity, ensuring that all life cycle stages of heather are present, and with scattered patches of bare ground or very short vegetation. It may, in certain areas be appropriate to maintain/retain limited areas of scrubby vegetation and open woodland. It is also useful to ensure the availability of scattered mature trees from which woodlarks can sing and Nightjars can 'churr'.</p> <p>Where habitat conditions are currently unsuitable and there is good potential to create suitable habitat for nightjar and woodlark, management should seek to increase the availability and continuity of lowland heath or other similar habitat.</p> <p>Opportunities to provide temporary or permanent habitat may arise through the long-term management of conifer woodlands as clearings and re-stocking areas can be valuable nesting habitat for nightjar and woodlark.</p>	NATURAL ENGLAND (2015). Site Improvement Plan – Wealden Heaths & Woolmer Forest http://publications.naturalengland.org.uk/publication/5431913779036160?category=6149691318206464
Supporting habitat (within the SPA): predation	Predation	Reduce or restrict predation and disturbance of nesting Nightjar and Woodlark caused by native and non-native predators.	<p>This will ensure that breeding productivity (number of chicks per pair) and survival are sustained at rates that maintain and restore where possible, the abundance of the feature.</p> <p>Impacts to breeding productivity can result directly from predation of eggs, chicks, juveniles and adults, and also from significant disturbance. The presence of predators can influence bird behaviours, such as abandonment of nest sites or reduction of effective feeding.</p> <p>Where evidence suggests predator management is required, measures can include their exclusion through fencing and scaring or by direct control. Any such</p>	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			measures must consider the legal protection of some predators, as well as the likely effects of such control on other qualifying features.	
Supporting habitat (within the SPA): function/ supporting process	Air quality	Restore as necessary the concentrations and deposition of air pollutants to below the site-relevant Critical Load or Level values given for the supporting habitats of these features of the site on the Air Pollution Information System (http://www.apis.ac.uk).	<p>The structure and function of the habitats which support the SPA features are sensitive to changes in air quality.</p> <p>Exceeding critical values for air pollutants may result in changes to the chemical status of a supporting habitat's substrate, accelerating or damaging plant growth, altering vegetation structure and composition and thereby affecting the quality and availability of nesting, feeding or roosting habitats. Some of the effects that might be attributable to aerial pollution could include accelerated and more vigorous growth of bramble, birch and coarse grasses and consequent loss of bare ground and/or heather which offer nest sites.</p> <p>Critical Loads and Levels are thresholds below which such harmful effects on sensitive UK habitats will not occur to a detectable level, according to current levels of scientific understanding. There are critical levels for ammonia (NH3), oxides of nitrogen (NOx) and sulphur dioxide (SO2), and critical loads for nutrient nitrogen deposition and acid deposition. 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 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. 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.</p> <p>The critical values for nitrogen are currently being exceeded for the supporting habitat at this site (according to APIS, as at October 2016).</p>	More information about site-relevant Critical Loads and Levels for this SPA is available by using the 'search by site' tool on APIS
Breeding population (within the SPA)	Population abundance	Nightjar: Maintain the size of the breeding population consistently at or above 43 'churring' males, whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent.	<p>This seeks to sustain the site's population and ensures it contributes to a viable local, national and bio-geographic population.</p> <p>Due to the mobility of birds and the dynamic nature of population change, the target value given for the abundance of this feature is considered to be the minimum standard for conservation/restoration measures to achieve. This minimum value may be revised where there is evidence to show that a</p>	RSPB (pers.comms) Actual Counts of Annex 1 Bird Territories on the Wealden Heaths (Phase

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
		<p>Woodlark: Maintain the size of the breeding population consistently at or above 15 pairs, whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent.</p>	<p>population's size has significantly changed as a result of natural factors or management measures and has been stable at or above a new level over a considerable period. The values given here may also be updated in future to reflect any strategic objectives which may be set at a national level for this feature.</p> <p>Given the likely fluctuations in numbers over time, any impact assessments should focus on the current abundance of the site's population, as derived from the latest known or estimated level established using the best available data. This advice accords with the obligation to avoid deterioration of the site or significant disturbance of the species for which the site is classified, and seeks to avoid plans or projects that may affect the site giving rise to the risk of deterioration. Similarly, where there is evidence to show that a feature has historically been more abundant than the stated minimum target and its current level, the ongoing capacity of the site to accommodate the feature at such higher levels in future should also be taken into account.</p> <p>Maintaining or restoring bird abundance depends on the suitability of the site. However, factors affecting suitability can also determine other demographic rates of birds using the site including survival (dependent on factors such as body condition which influences the ability to breed or make foraging and / or migration movements) and breeding productivity.</p> <p>Adverse anthropogenic impacts on either of these rates may precede changes in population abundance (e.g. by changing proportions of birds of different ages) but eventually may negatively affect abundance. These rates can be measured or estimated to inform judgements of likely impacts on abundance targets. Unless otherwise stated, the population size will be that measured using standard methods such as peak mean counts or breeding surveys. This value is also provided recognising there will be inherent variability as a result of natural fluctuations and margins of error during data collection.</p> <p>Whilst we will endeavour to keep these values as up to date as possible, local Natural England staff can advise on whether the figures stated are the best available. The data originally used to support the SPA classification was based on records submitted by volunteer bird recorders for the period 1989-1993. Regular monitoring is carried out by volunteers on all component parts of the</p>	<p>II) Heaths SPA, 2010-18</p>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>SPA.</p> <p>The latest mean figure for Nightjar is 61 breeding territories. The latest mean figure for woodlark are 42 breeding territories.</p>	
Supporting habitat (both within and outside the SPA): extent and distribution	Extent and distribution of supporting breeding habitat	Maintain the extent, distribution and availability of suitable breeding habitat which supports Nightjar and Woodlark for all necessary stages of their breeding cycle (courtship, nesting, feeding and roosting).	<p>Conserving or restoring the extent of supporting habitats and their range will be key to maintaining the ability and capacity of the SPA to support internationally important numbers of nightjar and woodlark. The extent and distribution of supporting habitat used by nightjar will vary over time in relation to habitat management, succession, and <i>ad hoc</i> events such as heath fires.</p> <p>The objective is to seek to ensure that there is no overall reduction in habitat availability whilst taking this variability into account.</p> <p>Nightjars are known to forage several kilometres away from their nesting territory. Bare ground is particularly important to Woodlark, especially where adjacent to structurally diverse vegetation and short heather.</p> <p>This objective will apply to any supporting habitat which is known to occur outside the site boundary where this is of critical importance in maintaining the populations ('functionally-linked land').</p>	
Supporting habitat (within the SPA): structure	Vegetation characteristics	<p>Nightjar: Maintain a mix of heathland vegetation typically 20-60cm high with frequent bare patches (>2 m²), bare ground (10-20%) and scattered tree/scrub cover (<50%) and trees (<2 m in height) throughout nesting areas.</p> <p>Woodlark: Maintain and restore where possible, a mix of trees, ground vegetation and bare ground (including frequency of bare patches of <0.5 ha within a mosaic of short (<5 cm) to medium (10-20 cm) ground vegetation, and small clumps of</p>	<p>The height, cover, variation and composition of vegetation are often important characteristics of habitats which support breeding nightjar and enable successful nesting, rearing, concealment and roosting.</p> <p>Nightjar show a preference for mature heath with some bare patches or areas of very short or sparse vegetation together with widely scattered trees where they are able to see predators approaching. These patches may be on open heath, in patchy scrub and in the interface between heath and woodland, as well as in clearings in woodland or plantations.</p> <p>Woodlark have specific requirements that conservation measures should aim to maintain, particularly the availability of bare ground or sparsely vegetated areas. They may utilise scattered trees or large bushes to act as song-posts.</p> <p>Activities that may directly or indirectly affect the vegetation of supporting habitats and modify these characteristics may adversely affect the feature.</p>	This attribute will be periodically monitored as part of Natural England's site condition assessments.

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
		shrubs or trees scattered throughout nesting and feeding areas.		
Supporting habitat (both within and outside the SPA): disturbance	Disturbance caused by human activity	Restrict and reduce the frequency, duration and/or intensity of disturbance affecting nesting, roosting, and/or foraging birds so that the Nightjar and Woodlark populations are not significantly disturbed during the breeding period.	<p>The nature, scale, timing and duration of some human activities can result in the disturbance of birds at a level that may substantially affect their behaviour, and consequently affect the long-term viability of the population.</p> <p>Such disturbing effects can for example result in changes to feeding or roosting behaviour, increases in energy expenditure due to increased flight, abandonment of nest sites and desertion of supporting habitat (both within or outside the designated site boundary). This may undermine successful nesting, rearing, feeding and/or roosting, and/or may reduce the availability of suitable habitat as birds are displaced and their distribution within the site contracts.</p> <p>Disturbance associated with human activity may take a variety of forms including noise, light, sound, vibration, trampling, presence of people, animals (including dogs) and structures.</p> <p>Human disturbance plays a key role in increasing the vulnerability of eggs and chicks to predation.</p>	
Supporting habitat (both within and outside the SPA): structure	Landscape	Maintain and restore where possible the amount of open and unobstructed patches in nesting and foraging areas, including areas of clear-fell, windfall, wide tracks, open forest and heath.	<p>Nightjar and Woodlark favour large areas of open terrain, largely free of obstructions, in and around its nesting, roosting and feeding areas. They seek out places where there is an unobstructed line of sight in nesting, feeding or roosting habitat so that they are able to detect approaching predators and to ensure visibility of displaying behaviour.</p> <p>An open landscape may also be required to facilitate movement of birds between the SPA and any off-site supporting habitat ('functionally-linked land'). Woodlark will often utilise areas adjacent to heathland for feeding, including areas of short grassland, stubble fields or weedy margins of arable fields, golf courses and bare areas in quarry sites. Such areas may be of critical importance in sustaining populations, particularly during winter months.</p> <p>An open landscape may also facilitate movement of birds between the SPA and any off-site supporting habitat.</p>	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
Supporting habitat (both within and outside the SPA): function/supporting process	Connectivity with supporting habitats	Maintain the safe passage of nightjars and woodlarks moving between nesting and feeding areas.	<p>The ability of the features to safely and successfully move between feeding and nesting areas using flight-lines and movement routes is critical to their breeding success and to adult fitness and survival.</p> <p>This objective will apply within the site boundary and where birds regularly move to and from off-site habitat where this is relevant.</p> <p>The foraging range of nightjar is known to extend up to several kilometres from their nest sites.</p>	
Supporting habitat (both within and outside the SPA): function/supporting process	Food availability	<p>Nightjar: Maintain the distribution, abundance and availability of key prey items (moths, beetles) at prey sizes preferred by Nightjar.</p> <p>Woodlark: Maintain and restore the distribution, abundance and availability of key prey items (e.g. spiders, weevils, caterpillars) at prey sizes preferred by Woodlark.</p>	<p>The availability of an abundant food supply is critically important for successful breeding, adult fitness and survival and the overall sustainability of the population. As a result, inappropriate management and direct or indirect impacts which may affect the distribution, abundance and availability of prey may adversely affect the population.</p> <p>Nightjars are insectivorous, feeding primarily on moths and flying beetles. Woodlark primarily feed on small invertebrates in bare and sparsely-vegetated areas, but will also take seeds.</p> <p>Management or other activities which might adversely affect the abundance of prey items could include widespread use of pesticides, habitat clearance, excessive mowing of vegetation and heath fires. This applies in key feeding areas, both within and outside the SPA, where relevant.</p>	
Version Control				
Advice last updated: Not applicable				
Variations from national feature-framework of integrity-guidance:				
Water quality targets removed as not relevant to this SPA				

Table 2: Supplementary Advice for Qualifying Features: A302. *Sylvia undata*; Dartford warbler (Breeding)

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
Supporting habitat (both within and outside the SPA): function/supporting process	Conservation measures	Maintain and restore, where possible, management or other measures (whether within and/or outside the site boundary as appropriate) necessary to maintain and restore the structure, function and/or the supporting processes associated with the Dartford Warbler population and its supporting habitats.	<p>Active and ongoing conservation management is required to protect, maintain and restore, where possible the breeding Dartford warbler population. Other conservation and/or restoration measures may also be required, and in some cases, these measures may apply to areas outside of the designated site boundary in order to achieve this target.</p> <p>Further details about the necessary conservation measures for this site can be provided by Natural England. 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 should have areas of structurally diverse heather and gorse. Dartford warblers particularly favour areas of tall, dense gorse and tall, mature heather for nesting. The availability of areas of shorter but structurally diverse vegetation nearby is important in providing invertebrate prey such as spiders and weevils.</p>	NATURAL ENGLAND (2015) Site Improvement Plan – Wealden Heaths & Woolmer Forest http://publications.naturalengland.org.uk/publication/5431913779036160?category=6149691318206464
Supporting habitat (within the SPA): predation	Predation	Reduce or restrict predation and disturbance of Dartford Warbler caused by native and non-native predators.	<p>This will ensure that breeding productivity (number of chicks per pair) and survival are sustained at rates that maintain and restore where possible the abundance of the feature. Impacts to breeding productivity can result directly from predation of eggs, chicks, juveniles and adults, and also from significant disturbance.</p> <p>The presence of predators can influence bird behaviours, such as abandonment of nest sites or reduction of effective feeding. Where evidence suggests predator management is required, measures can include their exclusion through fencing and scaring or by direct control. Any such measures must consider the legal protection of some predators, as well as the likely effects of such control on other qualifying features.</p>	
Supporting habitat (within the SPA): function/supporting process	Air quality	Maintain concentrations and deposition of air pollutants at or below the site-relevant Critical Load or Level values given for the supporting habitat of this feature of the site on the Air Pollution Information System	See explanatory notes for this attribute in Table 1 above.	More information about site-relevant Critical Loads and Levels for this SPA is available by using the 'search by site' tool on the Air

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
		http://www.apis.ac.uk .		Pollution Information System.
Breeding population (within the SPA)	Population abundance	Maintain the size of the breeding Dartford Warbler population at a level which is consistently at or above 16 pairs, whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent.	<p>See explanatory notes for this attribute in Table 1 above.</p> <p>Monitoring has demonstrated that numbers of breeding Dartford warbler at this site are significantly affected by winter and spring weather conditions. Factors including the frequency and duration of snow cover and occurrence of cold, damp spring weather are particularly influential and the population may take many years to recover after such events. However, survival and productivity can be improved when patches of dense, mature gorse are available to provide protection from bad weather.</p> <p>The latest mean figures for Dartford Warbler is 20 breeding territories. Data from RSPB (pers.comms): Actual Counts of Annex 1 Bird Territories on the Wealden Heaths (Phase II) Heaths SPA, 2010-18</p>	
Supporting habitat (both within and outside the SPA): extent and distribution	Extent and distribution of supporting breeding habitat	Maintain and restore where possible the extent, distribution and availability of suitable breeding habitat which supports the breeding Dartford warbler population for all necessary stages of its breeding cycle (courtship, nesting and feeding).	<p>Conserving or restoring the extent of supporting habitats and their range will be key to maintaining the site's ability and capacity to support the capacity of the SPA to support internationally important numbers of Dartford warbler. The extent and distribution of supporting habitat used by Dartford warblers will vary over time given the dynamic nature of the habitat and will be influenced by factors such as habitat management and <i>ad hoc</i> events such as heath fires.</p> <p>The objective is to seek to ensure that there is no overall reduction in availability of suitable habitat whilst taking this variability into account. This may also apply to any supporting foraging habitat which is known to occur outside the site boundary but supports the breeding SPA population.</p>	
Supporting habitat (within the SPA): structure	Vegetation characteristics	Restore a structurally-diverse mix of heathland vegetation in breeding and feeding areas, comprising >50% cover of heather, <25 trees/ha, 5-10% cover of common gorse and <10% cover of other scrub.	<p>The height, cover, variation and composition of vegetation are important characteristics of habitats supporting Dartford warbler which enable successful nesting/rearing/concealment/roosting.</p> <p>Dartford warblers have specific requirements that conservation measures should aim to maintain. Of particular importance is the availability of stands of structurally diverse gorse and/or tall, mature heather in a predominantly open landscape. Activities that may directly or indirectly affect the vegetation of supporting habitats and modify these characteristics may adversely affect the Dartford warbler population.</p> <p>5-10% target applied for common gorse as scattered gorse bushes and</p>	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			stands are vital for foraging and winter shelter	
Supporting habitat (both within and outside the SPA): disturbance	Minimising disturbance caused by human activity	Restrict and reduce the frequency, duration and/or intensity of disturbance affecting nesting, roosting and foraging birds so that the Dartford warbler population is not significantly disturbed	The nature, scale, timing and duration of some human activities can result in the disturbance of birds at a level that may substantially affect their behaviour, and consequently affect the long-term viability of the population. Such disturbing effects can for example result in changes to feeding or roosting behaviour, increases in energy expenditure due to increased flight, abandonment of nest sites and desertion of supporting habitat (both within or outside the designated site boundary where appropriate). This may undermine successful nesting, rearing, feeding and/or roosting, and/or may reduce the availability of suitable habitat as birds are displaced and their distribution within the site contracts. Disturbance associated with human activity may take a variety of forms including noise, light, sound, vibration, trampling, presence of people, animals (including dogs) and structures.	
Supporting habitat (both within and outside the SPA): structure	Landscape	Maintain and restore where possible the amount of open and un-obstructed terrain within and around the site, and maintain and restore dwarf shrub cover (ideally to >75% overall) in areas of open heath.	Although they will utilise enclosed features such as clearings in conifer plantations, Dartford warbler favour large areas of open terrain, largely free of obstructions, in and around nesting, roosting and feeding areas. They will benefit from availability of an unobstructed line of sight within nesting, feeding or roosting to enable birds to detect approaching predators, or to ensure visibility of displaying behaviour. It will also be beneficial to maintain and restore habitat links between the SPA and off-site supporting habitat, or to alternative areas of nesting habitat.	
Supporting habitat (both within and outside the SPA): function/ supporting process	Food availability within supporting habitat	Maintain the distribution, abundance and availability of key prey items preferred by Dartford Warbler (e.g. beetles, spiders, caterpillars, bugs).	The availability of an abundant food supply is critically important for successful breeding, adult fitness and survival and the overall sustainability of the population. As a result, inappropriate management and direct or indirect impacts which may affect the distribution, abundance and availability of prey may adversely affect the population. Dartford warblers are particularly dependent upon invertebrates which live on gorse and heather and management which reduces invertebrate abundance such as pesticide application or activities which reduce structural diversity may be damaging.	
Version Control				
Advice last updated: 12/03/2019 – addition of common Gorse target in 'vegetation characteristics' attribute				
Variations from national feature-framework of integrity-guidance: Water quality targets removed as not relevant				

