



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

**Ashdown Forest Special Protection Area (SPA)
Site Code UK9012181**



© Ashdown Conservators

Date of Publication: 10 February 2019

About this document

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

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

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	Ashdown Forest Special Protection Area (SPA)
Location	East Sussex
Site Map	The designated boundary of this site can be viewed here on the MAGIC website
Designation Date	25 August 1998
Qualifying Features	See section below
Designation Area	3205.46ha
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)	<i>Ashdown Forest SSSI</i>
Relationship with other European or International Site designations	The boundary of the SPA overlaps with the boundary of Ashdown Forest SAC. The Conservation Objectives for this site can be found here

Site background and geography

Ashdown Forest is an ancient area of tranquil open heathland occupying the highest sandy ridge-top of the High Weald Area of Outstanding Natural Beauty, within the High Weald National Character Area ([NCA Profile 122](#)). It is situated some 30 miles (48 km) south of London in the county of Sussex, England. Rising to an elevation of 732 feet (223 m) above sea level, its heights provide expansive vistas across the heavily wooded hills of the Weald to the chalk escarpments of the North Downs and South Downs on the horizon.

The underlying geology of Ashdown Forest is mostly sandstone, predominantly the Lower Cretaceous Ashdown Formation. This forms a layer varying from 500 feet (150 m) to 700 feet (210 m) thick, consists of fine-grained, silty interbedded sandstones and siltstones with subordinate amounts of shale and mudstone. It is the oldest Cretaceous geological formation that crops out in the Weald.

The underlying sandstone geology of the Ashdown Sands, when combined with a local climate that is generally wetter, cooler and windier than the surrounding area owing to the forest's elevation, which rises from 200 feet (61 m) to over 700 feet (210 m) above sea level, gives rise to sandy, largely podzolic soils that are characteristically acid, clay, and nutrient-poor. On these poor, infertile soils have developed heathland, valley mires and damp woodland. These conditions have never favoured cultivation and have been a barrier to agricultural improvement.

Ashdown Forest's origins lie as a medieval hunting forest created soon after the Norman conquest of England. By 1283 the forest was fenced in by a 23 miles (37 km) pale enclosing an area of some 20 square miles (5,200 ha). Ashdown Forest has a rich archaeological heritage. It contains much evidence of prehistoric human activity, with the earliest evidence of human occupation dating back to 50,000 years ago. There are important Bronze Age, Iron Age and Romano-British remains.

Ashdown Forest is famous as the setting for the Winnie-the-Pooh stories written by A. A. Milne, who lived on the northern edge of the forest and took his son, Christopher Robin, walking there. The artist E. H. Shepard drew on the landscapes of Ashdown Forest as inspiration for many of the illustrations he provided for the Pooh books

Ashdown Forest contains one of the largest single continuous blocks of lowland heath in south-east England, with both dry heaths and, in a larger proportion, wet heath. The survival of the forest's extensive heathlands has become all the more important when set against the large-scale loss of English lowland heathland over the last 200 years; within the county of East Sussex, heathland has shrunk by 50% over the last 200 years, and most of what remains is in Ashdown Forest. The damming of streams, digging for marl, and quarrying have produced several large ponds in a number of areas of the forest. The site supports important assemblages of beetles, dragonflies, damselflies and butterflies, including the nationally rare silver-studded blue *Plebejus argus*, and birds of European importance, such as European nightjar *Caprimulgus europaeus*, Dartford warbler *Sylvia undata*, Eurasian hobby *Falco Subbuteo* and Woodlark *Lullula arborea*.

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 (Article 4.1)

During the breeding season the SPA regularly supports:

- A302 Dartford Warbler (*Sylvia undata*) – 20 pairs representing at least 2.1% of the breeding population in Great Britain

Dartford Warbler require supporting habitat of heathland with areas of gorse.

- A224 Nightjar (*Caprimulgus europaeus*) – 35 pairs representing at least 1.1% of the breeding population in Great Britain

Nightjar require supporting habitat which includes a mosaic of heathland, open woodland and recently felled conifer plantations

Qualifying individual species not listed in Annex I of the Wild Birds Directive (Article 4.2)

N/A

Qualifying assemblage of species (Article 4.2)

N/A

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.

Applicants 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. Non-breeding water bird monthly maxima data gathered for this site through the Wetland Bird Survey ('WeBS') may be available upon request from the [British Trust for Ornithology](#).

Feature	Season	Period	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Site-specific references where available
<i>Dartford Warbler</i>	<i>Breeding</i>	<i>Summer</i>													
<i>Nightjar</i>	<i>Breeding</i>	<i>Summer</i>													

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

Passage - the periods during the autumn and spring when migratory birds are moving between breeding areas and wintering areas. These periods are not strictly defined but generally include the months of July – October inclusive (autumn passage) and March – April inclusive (spring passage).

Winter - the period generally from November to February inclusive.

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

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
Breeding population	Population abundance	Maintain the size of the breeding population at a level which is above 35 pairs, whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent.	<p>This will sustain the site's population and ensures it contributes to a viable local, national and bio-geographic population. 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 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 (generally at least 10 years). 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. 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</p>	<p>Ashdown Forest SPA Citation</p> <p>CLARKE, R. T., SHARP, J. & LILEY, D. (2010).</p> <p>Conway et al (2010) Breeding nightjar (<i>Caprimulgus europaeus</i>) surveys of selected SSSIs in southern England. BTO Research Report 570. Unpublished report to Natural England.</p>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>negatively affect abundance. These rates can be measured/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.</p> <p>The most recent national Nightjar survey in 2004 indicated 82 churring males were present within the SPA. A survey of selected SSSIs in 2010 found 83 churring males.</p>	
<p>Supporting habitat (both within and outside the SPA): disturbance</p>	<p>Minimising disturbance caused by human activity</p>	<p>Reduce the frequency, duration and/or intensity of disturbance affecting nesting, roosting, foraging, feeding, moulting and/or loafing birds so that the feature is not significantly disturbed</p>	<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 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.</p> <p>Nightjar is a bird known to be sensitive to disturbance. Disturbance caused by human activity may take a variety of forms including noise, light, sound, vibration, trampling, presence of people, animals and structures.</p> <p>Studies and evidence resulting from research undertaken at the Ashdown Forest SPA and other SPAs in the country has identified that one of the principal threats to the European protected Dartford warbler and nightjar is the damaging effects</p>	<p>CLARKE, R. T., SHARP, J. & LILEY, D. (2010).</p> <p>UE Associates and University of Brighton, (2009).</p> <p>LILEY, D., PANTER, C. & BLAKE, D. (2016).</p> <p>NATURAL ENGLAND, 2014</p>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>of disturbance caused by recreation during their breeding period. It is acknowledged that freely roaming dogs hugely exacerbate the disturbance caused by people visiting the site where they can inadvertently trample on or flush birds from their nest leaving chicks or eggs to die.</p> <p>Visitor surveys at Ashdown Forest in 2008 and 2016 identified a significant use of Ashdown Forest by the existing local population, particularly for the purpose of dog walking. Data analysis following the 2008 survey identified that it is likely that any new population arising from new development in the local area will also use Ashdown Forest as a recreational resource.</p> <p>The Local Authorities who are likely to deliver residential development near to the Ashdown Forest SPA have agreed to coordinate an approach to collect developer contributions to deliver visitor access management and monitoring measures at the Ashdown Forest SPA.</p> <p>Wealden, Mid Sussex and Lewes District Councils and Tunbridge Wells Borough Council have been working in partnership with the Conservators of Ashdown Forest and Natural England since prior to 2012 to develop a Joint Strategic Access Management and Monitoring (SAMM) Strategy. More recently, Tandridge and Sevenoaks District Councils have also joined the SAMM. The complementary use of this Strategy and provision of Suitable Alternative Natural Greenspace (SANG) as part of new residential development is considered the most appropriate mechanism to mitigate the risk of significant recreational disturbance to the SPA.</p> <p>Additional impacts may occur from urbanisation effects such as fly tipping, increased fires, dirt track biking etc and cat predation.</p>	
Supporting habitat (both within and outside)	Extent and distribution of supporting	Maintain the extent, distribution and availability of suitable breeding habitat which supports	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 SPA population. The information available on the extent and distribution of supporting habitat	This attribute will be periodically monitored as part of Natural England's SSSI Condition Assessments

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
the SPA): extent and distribution	breeding habitat	the feature for all necessary stages of its breeding cycle	used by the feature may be approximate depending to the nature, age and accuracy of data collection. This target will apply to any supporting habitat which is known to occur outside the site boundary.	
Supporting habitat (both within and outside the SPA): function/ supporting process	Air quality	Restore 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 (www.apis.ac.uk).	<p>The structure and function of the habitats which support this SPA feature may be sensitive to changes in air quality. Exceeding critical values for air pollutants may result in changes to the chemical status of its habitat substrate, accelerating or damaging plant growth, altering vegetation structure and composition.</p> <p>Increased development is likely to result in increased traffic on the roads that cross the SPA. However the resultant vehicular air emissions will not significantly retard the background improvements that are expected as a result of improvements in vehicular technology and from the Government Clean Air Strategy. Additionally, minor habitat changes are not considered to be a threat to the SPA population as it is the broad structure and function of the habitat that supports the SPA features that is considered more relevant.</p>	<p>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 (www.apis.ac.uk)</p> <p>Natural England (2014) Site Improvement Plan - Ashdown Forest SIP</p> <p>CAPORN, S., FIELD, C., PAYNE, R., DISE, N., BRITTON, A., EMMETT, B., JONES, L., PHOENIX, G., POWER, S., SHEPPARD, L. and STEVENS, C. 2016. Assessing the effects of small increments of atmospheric nitrogen deposition (above the critical load) on semi-natural habitats of conservation importance. Natural England Commissioned Report, Number 210.</p> <p>AIR QUALITY CONSULTANTS. 2018. Ashdown Forest SAC Air Quality Monitoring and Modelling August 2018. Report to Wealden District Council</p> <p>ECUS Environmental Consultants. 2018. Ecological Monitoring at Ashdown Forest:</p>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
				Considering the Current and Future Impacts on the SAC caused by Air Quality and Nitrogen Deposition . Report to Wealden District Council
Supporting habitat (both within and outside the SPA): function/supporting process	Connectivity with supporting habitats	Maintain the safe passage of birds moving between nesting and feeding areas	<p>The ability of the feature 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. This target 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> <p>Radio-tracking studies at other sites have shown that nightjars will often avoid some areas and instead travel to superficially similar habitat further away, suggesting that they exploit a few particularly rich feeding sites</p>	Dartford Warbler and Nightjar monitoring data are collected by Ashdown Forest Bird Group
Supporting habitat (both within and outside the SPA): function/supporting process	Conservation measures	Restore management or other measures (whether within and/or outside the site boundary as appropriate) necessary to restore the structure, function and/or the supporting processes associated with the feature and its supporting habitats.	<p>Active and ongoing conservation management is often needed to protect, maintain or restore this feature at this site. Other 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. 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>Habitat management should retain the open, mosaic structure of lowland wet and dry heath, ensuring all life cycles of heather are present. It may, in certain areas, be appropriate to maintain scrubby vegetation and occasional taller trees should be available for the nightjar to “churr” from.</p>	<p>This attribute will be periodically monitored as part of Natural England's SSSI Condition Assessments</p> <p>Ashdown Forest Management Plan 2016-2020 sets out the measures required to maintain and/or restore the habitat, and the existing management measures which are in place. . The management plan covers the majority of the SAC/SPA.</p>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>One third of the heathland is currently grazed. Favourable condition requires a diverse vegetation structure and grazing, in combination with some mechanical management, can achieve this. The heathland would be improved by more cattle, less sheep, and expanding the grazing.</p> <p>Outside of the permanently fenced areas, small sections are grazed each year, controlled with temporary fencing. The ability to target animals to specific areas would also be beneficial to the heathland.</p>	
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 (e.g. moths, beetles) at preferred prey sizes.	<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>The nightjar is insectivorous, feeding primarily on moths and beetles. Aspects which might affect prey availability will include lighting, pest control, changes in land use and habitat management.</p> <p>The location of feeding areas which support the SPA's nightjar population is often not well understood and may require specific studies or research. More generally, nightjars are known to forage in such habitats as open forest and heathland</p>	
Supporting habitat (both within and outside the SPA): function /supporting process	Water quality/quantity	Where the supporting habitats of the SPA feature are dependent on surface water, maintain water quality and quantity at a standard which provides the necessary conditions to support the feature	<p>For many SPA features which are dependent on wetland habitats supported by surface water, maintaining the quality and quantity of water supply will be critical, especially at certain times of year during key stages of their life cycle. Poor water quality and inadequate quantities of water can adversely affect the availability and suitability of breeding, rearing, feeding and roosting habitats.</p> <p>Typically, meeting the surface water and groundwater environmental standards set out by the Water Framework Directive (WFD 2000/60/EC) will also be sufficient to support</p>	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			the SPA Conservation Objectives but in some cases more stringent standards may be needed to support the SPA feature. Further site-specific investigations may be required to establish appropriate standards for the SPA.	
Supporting habitat (both within and outside the SPA): predation	Predation	Reduce predation and disturbance caused by native and non-native predators.	This will ensure that breeding productivity (number of chicks per pair) and survival are sustained at rates that maintain or restore 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. 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.	
Supporting habitat (both within and outside the SPA): structure	Landscape	Maintain the amount of open and unobstructed patches within nesting and foraging areas, including areas of clear-fell, windfall, wide tracks, open forest and heath.	<p>This feature is known to favour large areas of open terrain, largely free of obstructions, in and around its nesting, roosting and feeding areas. Often there is a need to maintain an unobstructed line of sight within nesting, feeding or roosting habitat to detect approaching predators, or to ensure visibility of displaying behaviour.</p> <p>Nightjar will also utilise areas of permanent open space and temporary clear-fell within rotationally managed plantation woodland and sparsely vegetated areas such as disused quarries.</p> <p>An open landscape may also be required to facilitate movement of birds between the SPA and any off-site supporting habitat.</p>	This attribute will be periodically monitored as part of Natural England's SSSI Condition Assessments
Supporting habitat (both within and outside the SPA): structure	Vegetation characteristics	Maintain the mix of vegetation (optimal conditions normally with vegetation mostly of 20-60 cm with frequent bare patches of >2 m ² , 10-20% bare ground and <50% tree/scrub cover overall; trees <2 m in height) throughout the nesting area.	The height, cover, variation and composition of vegetation are often important characteristics of habitats supporting this feature which enable successful nesting/ rearing/ concealment/ roosting. Many bird species will have specific requirements that conservation measures will aim to maintain, for others such requirements will be less clear.	This attribute will be periodically monitored as part of Natural England's SSSI Condition Assessments

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>Activities that may directly or indirectly affect the vegetation of supporting habitats and modify these characteristics may adversely affect the feature.</p> <p>Nightjar show a preference for bare patches or areas of very short vegetation with widely scattered tree where they are able to see predators approaching. These patches may be on open heathland and within open areas of plantation woodland.</p>	
Version Control Advice last updated: N/A				
Variations from national feature-framework of integrity-guidance: N/A				

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)
Breeding population	Population abundance	Restore the size of the breeding population to a level which is above 20 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.</p> <p>Annual monitoring on other sites has demonstrated that Dartford warbler populations vary considerably from year to year. It is likely that this is a combination of a range of factors including climatic factors, improved habitat management, recovery of parts of the complex after heath fires, changes in access management and implementation of measures to reduce recreational disturbance.</p> <p>Dartford Warblers are particularly susceptible to climatic factors such as prolonged periods of snow cover in winter and cold, damp spring weather. Survival and productivity appears to be enhanced when patches of dense gorse are available when provide protection from bad weather.</p> <p>The objective is therefore both to ensure that the overall population is restored the minimum population size (subject to natural population variations in response to climatic factors) and to seek to ensure that new activities do not adversely affect the population trend, measured through on-going monitoring programmes.</p> <p>Dartford warbler numbers within Ashdown Forest declined following the particularly harsh winters of 08-09 and 09-10. However, their population in Sussex is recovering, and a survey by the Sussex Ornithological Society in 2017 found a minimum of 15 territories on Ashdown Forest (CRABTREE, 2018).</p>	<p>SPA Citation</p> <p>Natural England (2014)</p> <p>CRABTREE (2018) Breeding Dartford warbler and woodlark survey in 2017: numbers, distribution and habitat preferences in Sussex. Paper in Sussex Bird Report 2017.</p>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
Supporting habitat (both within and outside the SPA): disturbance	Minimising disturbance caused by human activity	Reduce the frequency, duration and/or intensity of disturbance affecting nesting, roosting, foraging, feeding, moulting and/or loafing birds so that the feature is not significantly disturbed	<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 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.</p> <p>Dartford Warbler is a bird known to be sensitive to disturbance. Disturbance associated with human activity may take a variety of forms including noise, light, sound, vibration, trampling, presence of people, animals and structures.</p> <p>Studies and evidence resulting from research undertaken at the Ashdown Forest SPA and other SPAs in the country has identified that one of the principal threats to the European protected Dartford warbler and nightjar is the damaging effects of disturbance caused by recreation during their breeding period. It is acknowledged that freely roaming dogs hugely exacerbate the disturbance caused by people visiting the site where they can inadvertently trample on or flush birds from their nest leaving chicks or eggs to die.</p> <p>Visitor surveys at Ashdown Forest in 2008 and 2016 identified a significant use of Ashdown Forest by the existing local population, particularly for the purpose of dog walking. Data analysis following the 2008 survey identified that it is likely that any new population arising from new development in the local area will also use Ashdown Forest as a recreational resource.</p> <p>The Local Authorities who are likely to deliver residential development near to the Ashdown Forest SPA have agreed to coordinate an approach to collect developer contributions to</p>	See Table 1

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>deliver visitor access management and monitoring measures at the Ashdown Forest SPA.</p> <p>Wealden, Mid Sussex and Lewes District Councils and Tunbridge Wells Borough Council have been working in partnership with the Conservators of Ashdown Forest and Natural England since prior to 2012 to develop a Joint Strategic Access Management and Monitoring (SAMM) Strategy. More recently, Tandridge and Sevenoaks District Councils have also joined the SAMM. The complementary use of this Strategy and provision of Suitable Alternative Natural Greenspace (SANG) as part of new residential development is considered the most appropriate mechanism to mitigate the risk of significant recreational disturbance to the SPA.</p> <p>Additional impacts may occur from urbanisation effects such as fly tipping, increased fires, dirt track biking etc and cat predation.</p>	
Supporting habitat (both within and outside the SPA): extent and distribution	Extent and distribution of supporting breeding habitat	Restore the extent, distribution and availability of suitable breeding habitat which supports the feature for all necessary stages of its breeding cycle (courtship, nesting, 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 SPA population. The information available on the extent and distribution of supporting habitat used by the feature may be approximate depending to the nature, age and accuracy of data collection. This target will apply to any supporting habitat which is known to occur outside the site boundary.</p> <p>The distribution of Dartford Warbler territories generally correlates well with that of areas of dry heathland</p>	This attribute will be periodically monitored as part of Natural England's SSSI Condition Assessments
Supporting habitat (both within and outside the SPA): function/ supporting process	Air quality	Restore 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 (www.apis.ac.uk).	The structure and function of the habitats which support this SPA feature may be sensitive to changes in air quality. Exceeding critical values for air pollutants may result in changes to the chemical status of its habitat substrate, accelerating or damaging plant growth, altering vegetation structure and composition.	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 (www.apis.ac.uk)

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			Increased development is likely to result in increased traffic on the roads that cross the SPA. However the resultant vehicular air emissions will not significantly retard the background improvements that are expected as a result of improvements in vehicular technology and from the Government Clean Air Strategy. Additionally, minor habitat changes are not considered to be a threat to the SPA population as it is the broad structure and function of the habitat that supports the SPA features that is considered more relevant.	<p>Natural England (2014) Site Improvement Plan - Ashdown Forest SIP</p> <p>CAPORN, S., FIELD, C., PAYNE, R., DISE, N., BRITTON, A., EMMETT, B., JONES, L., PHOENIX, G., POWER, S., SHEPPARD, L. and STEVENS, C. 2016. Assessing the effects of small increments of atmospheric nitrogen deposition (above the critical load) on semi-natural habitats of conservation importance. Natural England Commissioned Report, Number 210.</p> <p>AIR QUALITY CONSULTANTS. 2018. Ashdown Forest SAC Air Quality Monitoring and Modelling August 2018. Report to Wealden District Council</p> <p>ECUS Environmental Consultants. 2018. Ecological Monitoring at Ashdown Forest: Considering the Current and Future Impacts on the SAC caused by Air Quality and Nitrogen Deposition. Report to Wealden District Council</p>
Supporting habitat (both within and outside the SPA):	Conservation measures	Restore management or other measures (whether within and/or outside the site boundary as appropriate) necessary to restore the	Active and ongoing conservation management is often needed to protect, maintain or restore this feature at this site. Other 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. Further details about	This attribute will be periodically monitored as part of Natural England's SSSI Condition Assessments

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
function/ supporting process		structure, function and/or the supporting processes associated with the feature and its supporting habitats.	<p>the necessary conservation measures for this site can be provided by 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>One third of the heathland is currently grazed. Favourable condition requires a diverse vegetation structure and grazing, in combination with some mechanical management, can achieve this. The heathland would be improved by more cattle, less sheep, and expanding the grazing.</p> <p>Outside of the permanently fenced areas, small sections are grazed each year, controlled with temporary fencing. The ability to target animals to specific areas would also be beneficial to the heathland.</p>	<p>Ashdown Forest Management Plan 2016-2020</p> <p>sets out the measures required to maintain and/or restore the habitat, and existing management measures which are in place. The management plan covers the majority of the SAC/SPA.</p>
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 (e.g. beetles, spiders, caterpillars, bugs) at preferred prey sizes.	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.	
Supporting habitat (both within and outside the SPA): function/ supporting process	Water quality/ quantity	Where the supporting habitats of the SPA feature are dependent on surface water, maintain water quality and quantity at a standard which provides the necessary conditions to support the feature.	<p>For many SPA features which are dependent on wetland habitats supported by surface water, maintaining the quality and quantity of water supply will be critical, especially at certain times of year during key stages of their life cycle. Poor water quality and inadequate quantities of water can adversely affect the availability and suitability of breeding, rearing, feeding and roosting habitats.</p> <p>Typically, meeting the surface water and groundwater environmental standards set out by the Water Framework Directive (WFD 2000/60/EC) will also be sufficient to support</p>	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			the SPA Conservation Objectives but in some cases more stringent standards may be needed to support the SPA feature. Further site-specific investigations may be required to establish appropriate standards for the SPA.	
Supporting habitat (both within and outside the SPA): predation	Predation	Reduce predation and disturbance 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 or restore 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. 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 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 (both within and outside the SPA): structure	Landscape	<p>Maintain the amount of open and unobstructed terrain within and around at least 0.5 km of the site, and Restore dwarf shrub cover (ideally to be at between 25% and 90% overall).</p> <p>Maintain the connectivity of structurally diverse heath and patches of dense gorse across the SPA</p>	<p>This feature is known to favour large areas of open terrain, largely free of obstructions, in and around its nesting, roosting and feeding areas. Often there is a need to maintain an unobstructed line of sight within nesting, feeding or roosting habitat to detect approaching predators, or to ensure visibility of displaying behaviour. An open landscape may also be required to facilitate movement of birds between the SPA and any off-site supporting habitat.</p> <p>Local populations of Dartford Warbler are subject to large variation in numbers in response to changing weather patterns and habitat structure. It is important that birds are able to move across the landscape and between patches of suitable habitat so they can re-colonise readily from strongholds. Habitat connectivity is particularly important for this species.</p>	This attribute will be periodically monitored as part of Natural England's SSSI Condition Assessments
Supporting habitat (both within and outside the SPA): structure	Vegetation characteristics	Maintain optimal mix of vegetation (>50% heather, <25 trees/ha and 5-25% scrub of 0.5-3 m overall) throughout the nesting area.	The height, cover, variation and composition of vegetation are often important characteristics of habitats supporting this feature which enable successful nesting/ rearing/ concealment/ roosting. Many bird species will have specific requirements that conservation measures will aim to maintain, for others such requirements will be less clear.	This attribute will be periodically monitored as part of Natural England's SSSI Condition Assessments

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>Activities that may directly or indirectly affect the vegetation of supporting habitats and modify these characteristics may adversely affect the feature.</p> <p>Dartford Warbler have species requirements that conservation measures should seek to maintain. Stands of gorse are closely associated with Dartford Warblers due to its high invertebrate biomass which may be related to its year round flowering and evergreen nature. Its dense and spikey structure may also provide protection from both the weather and predators</p>	
Version Control Advice last updated: N/A				
Variations from national feature-framework of integrity-guidance: N/A				

References

- AIR QUALITY CONSULTANTS, 2018. [Ashdown Forest SAC Air Quality Monitoring and Modelling August 2018](#). Report to Wealden District Council
- CAPORN, S., FIELD, C., PAYNE, R., DISE, N., BRITTON, A., EMMETT, B., JONES, L., PHOENIX, G., POWER, S., SHEPPARD, L. and STEVENS, C. 2016. [Assessing the effects of small increments of atmospheric nitrogen deposition \(above the critical load\) on semi-natural habitats of conservation importance](#). Natural England Commissioned Report, Number 210.
- CLARKE, R. T., SHARP, J. & LILEY, D. 2010. *Ashdown Forest visitor survey data analysis*. Natural Conway et al (2010) Breeding nightjar (*Caprimulgus europaeus*) surveys of selected SSSIs in southern England. BTO Research Report 570. Unpublished report to Natural England.
- CRABTREE, H. (2018) Breeding Dartford warbler and woodlark survey in 2017: numbers, distribution and habitat preferences in Sussex. In Sussex Bird Report 2017, published by the Sussex Ornithological Society. England Commissioned Reports, Number 048. <http://publications.naturalengland.org.uk/file/71044>
- ECUS Environmental Consultants. 2018. [Ecological Monitoring at Ashdown Forest: Considering the Current and Future Impacts on the SAC caused by Air Quality and Nitrogen Deposition](#). Report to Wealden District Council
- LILEY, D., PANTER, C. & BLAKE, D. (2016). [Ashdown Forest Visitor Survey 2016](#).
- NATURAL ENGLAND, 2014. Site Improvement Plan for Ashdown Forest SPA (SIP006) <http://publications.naturalengland.org.uk/publication/5793096570765312>
- NATURAL ENGLAND, 2015. Climate Change Theme Plan and supporting National Biodiversity Climate Change Vulnerability assessments (NBCCVAs) for SACs and SPAs in England [Available at <http://publications.naturalengland.org.uk/publication/4954594591375360>
- UE Associates and University of Brighton (2009) Visitor Access Patterns on Ashdown Forest. Recreational use and nature conservation. Report for Mid Sussex & Wealden District Councils <https://www.midsussex.gov.uk/media/2977/uevisitorsurvey.pdf>