



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

**Peak District Moors (South Pennine Moors Phase 1)  
Special Protection Area (SPA)  
Site code: UK9007021**



Photo: © Tim Melling

**Date of Publication:** 11 February 2019

## **About this document**

This document provides Natural England's supplementary advice for the European Site Conservation Objectives relating to Peak District Moors (South Pennine Moors Phase 1) SPA. This advice should therefore be read together with the SPA's Conservation Objectives available [here](#).

This site overlaps with the South Pennine Moors Special Area of Conservation, you should also refer to the separate European Site Conservation Objectives ([here](#)) and Supplementary Advice (where available) provided for that site.

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

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

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

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

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

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

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

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

## About this site

### European Site information

<b>Name of European Site</b>	Peak District Moors (South Pennine Moors Phase 1) Special Protection Area (SPA)
<b>Location</b>	Derbyshire, Cheshire, Staffordshire, Tameside, Sheffield, Barnsley, Kirklees
<b>Site Map</b>	The designated boundary of this site can be viewed <a href="#">here</a> on the MAGIC website
<b>Designation Date</b>	1996
<b>Qualifying Features</b>	See section below
<b>Designation Area</b>	45,270.52 ha
<b>Designation Changes</b>	Extended in 2000 to include the Eastern Peak District Moors SSSI
<b>Feature Condition Status</b>	Details of the feature condition assessments made at this site can be found using Natural England's <a href="#">Designated Sites System</a>
<b>Names of component Sites of Special Scientific Interest (SSSIs)</b>	Dark Peak SSSI, Eastern Peak District Moors SSSI, Goyt Valley SSSI, Leek Moors SSSI
<b>Relationship with other European or International Site designations</b>	SPA overlaps with part of the <a href="#">South Pennine Moors SAC</a>

### Site background and geography

The South Pennine Moors SPA Phases 1 and 2 include the major moorland blocks of the South Pennines from Ilkley in the north to Leek and Matlock in the south. They lie within three National Character Areas: the [Southern Pennines](#), [The Dark Peak](#) and the [South West Peak](#).

This is a landscape of large-scale sweeping moorlands, pastures enclosed by drystone walls, and gritstone settlements contained within narrow valleys. The soils within the SPA are generally acidic in nature and nutrient-poor and consist of varying depths of peat overlying a geology of sandstone, gritstone and sedimentary rock. The geomorphology and landscape is one of large expanses of uplands and valleys with associated crags, ledges and escarpments.

The Dark Peak is made of three mountain massifs reaching over 600m in altitude with a substantial area of blanket peat at 400-500m above sea level. Between these lie steep sided valleys with tributaries via the River Etherow to the Mersey and, via the rivers Derwent and Don, to the Humber. Impoundment for reservoir reflect the importance of these areas for the water supply of the major conurbations that lie nearby. The valleys also provide some of the last fragments of semi-natural woodland in the areas.

To the south east the 'eastern moors' provide a lower and drier ridge of moorland and characteristic gritstone edges with a substantially wooded undercliff, this is an area of added interest for the range of physical remains reflecting a long period of settlement and use. In the south west the moors above Buxton and Leek provide a mosaic of moorland with bog, heath and rushy pasture mixed together.

## **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**

- **Golden plover *Pluvialis apricaria* (breeding)**

At the time of its classification, the SPA supported 435 breeding pairs of golden plover, which represented 1.7 % of the British breeding population.

In Britain, the species is distributed widely throughout upland areas, with concentrations in northern and western Scotland and the north and south Pennines, and smaller outlying groups breeding in Wales and south-west England. The English and Welsh populations breed at the southern edge of the species' global range.

Golden plover nest in a shallow scrape on the ground often hidden by moorland vegetation. Golden plover use the blanket bog habitat within the SPA and are more common on the higher and more remote bogs. Most breeding pairs are found within the Dark Peak but important outlier breeding groups remain in the more northern sections of the south west peak and the eastern moors. Birds will use a variety of vegetation types from high heather cover to high sedge cover providing a suitable structure is maintained. They avoid deep vegetation, areas that are overlooked and areas of high disturbance.

Food consists of invertebrates, mainly beetles and earthworms; marginal or low-intensity agricultural pastures (off-site), adjacent to or nearby moorland nesting habitat, are important feeding grounds in the summer for the adults. Eggs are typically laid between April-mid-May and one brood is raised per year. In some years young birds reliant on parents are still seen in July. Wet bog conditions support the larvae and adults of craneflies which are an important food source for the newly hatched birds.

- **Merlin *Falco columbarius* (breeding)**

At the time of its classification, the SPA supported 35 breeding pairs of merlin, which represented 5.4% of the British breeding population.

In the UK, Merlin is confined as a breeding species to heather moorland areas, mainly in the uplands of Northern Ireland, Scotland, Wales and northern England, with small numbers in south-west England.

The majority of merlin in the UK nest in a shallow scrape on the ground and this is the case for the birds of the Peak District Moors SPA. The scrape will be lined with small twigs, pieces of heather, bracken and other material and concealed by mature/over mature heather. Territories are traditional, and are used repeatedly from year to year by successive generations of birds.

Merlin are widespread across the site and use an extensive area within the SPA in which to hunt for prey. Eggs are laid between May and early June with hatching timed to coincide with a greater abundance of passerines which make up most of the diet of these birds. The young will often leave the nest at 18-20 days and scatter into the surrounding undergrowth. They fledge at 25-32 days, and are independent about a month later. One brood a year is raised. Replacement clutches may be laid after early egg loss.

- **Short-eared owl *Asio flammeus* (breeding)**

The breeding population of short-eared owls is both difficult to accurately assess and prone to significant year to year fluctuations reflecting variations in the numbers of field voles which are their main prey.

At the time of classification it was estimated that there were 22 pairs of short-eared owls in the SPA (the species is only classified for the phase 1 part of the SPA).

Short-eared owls are ground nesting birds that use long heather and tall rushes to provide cover for the nests.



## Site-specific seasonality of qualifying 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.

## Seasonality of site use by qualifying feature

Feature	Season	Period	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Site-specific references where available
Golden plover	Breeding	Summer													MOSS, D., JOYS, A.C., CLARK, J.A., KIRBY, A., SMITH, A., BAINES, D. & CRICK, H.Q.P. 2005. <i>Timing of breeding of moorland birds</i> . <a href="#">BTO Research Report No. 362</a> .
Merlin	Breeding	Summer													
Short-eared owl	Breeding	Summer													

### 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: A098. *Falco columbarius*; Merlin (Breeding)**

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
<b>Breeding population (within the SPA)</b>	<b>Population abundance</b>	Restore the size of the breeding Merlin population to a level that is consistently above 35 pairs, whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent.	<p>Action to restore the population will sustain the site's importance and ensure 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.</p> <p>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. 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 over a sustained period 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 negatively affect abundance. These rates can be measured/estimated to inform judgements of likely impacts on abundance targets.</p> <p>Unless otherwise stated, the population size will be that measured using</p>	<p>BROWN, A.F &amp; SHEPHERD, K. B. 1991. <i>Breeding birds of the South Pennine Moors</i>. JNCC Report No 7.</p> <p>CARR, G. &amp; MIDDLETON, P. 2005. <i>Breeding Bird Survey of the Peak District Moorlands</i> 2004. MFF Report</p> <p>ENGLISH NATURE, 2000. <i>SPA citation</i>. Available at: <a href="http://publications.naturalengland.org.uk/publication/6145889668169728">http://publications.naturalengland.org.uk/publication/6145889668169728</a></p> <p>EWING, S.R., REBECCA, G.W., HEAVISIDES, A., COURT, I.R., LINDLEY, P., RUDDOCK, M., COHEN, S. &amp; EATON, M.A. 2011. <i>Breeding status of Merlin Falco columbarius in the UK in 2008</i>. Bird Study <b>58</b>: 379-389</p> <p>JNCC, 2016. <i>SPA</i></p>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			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. 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>data form. Available at:  <a href="http://jncc.defra.gov.uk/pdf/SPA/UK9007021.pdf">http://jncc.defra.gov.uk/pdf/SPA/UK9007021.pdf</a></p> <p>SHEPHERD, K. B. 2005. <i>Peak District Moors Breeding Bird Survey 2005</i>. Unpublished report presented to English Nature.</p> <p>WATERMANS PLC, 2018. <i>Peak District Moors Breeding Bird Survey</i>. Report commissioned by Natural England from Moors for the Future (MFF) <i>in draft</i></p> <p>Peak District Bird of Prey project (annual).</p>
<b>Supporting habitat (both within and outside the SPA): disturbance</b>	<b>Minimising disturbance caused by human activity</b>	Restrict and reduce the frequency, duration and/or intensity of disturbance affecting nesting, roosting, foraging and/or, feeding birds so that the breeding Merlin population feature 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 and structures.	<p>EWING, S.R., REBECCA, G.W., HEAVISIDES, A., COURT, I.R., LINDLEY, P., RUDDOCK, M., COHEN, S. &amp; EATON, M.A. 2011. <i>Breeding status of Merlin Falco columbarius in the UK in 2008</i>. Bird Study <b>58</b>: 379-389</p> <p>Local raptor study</p>



Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			For this SPA, particular attention to be focussed on the core area (radius 500-800m from the nest) and to timing that allows for both pairing and establishment and to the bird biology whereby this species nests later in the season to exploit an abundance of small passerines.	group (annual monitoring)  Peak District Bird of Prey project (annual).
<b>Supporting habitat (both within and outside the SPA): function/ supporting process</b>	<b>Adaptation and resilience</b>	Maintain the ability of the feature's supporting habitats to adapt or evolve to wider environmental change, either within or external to the site	<p>This recognises the increasing likelihood of natural habitat features to absorb or adapt to wider environmental changes. Resilience may be described as the ability of an ecological system to cope with, and adapt to environmental stress and change whilst retaining the same basic structure and ways of functioning. Such environmental changes may include changes in sea levels, precipitation and temperature for example, which are likely to affect the extent, distribution, composition and functioning of a feature within a site. The vulnerability and response of features to such changes will vary. Using best available information, any necessary or likely adaptation or adjustment by the feature and its management in response to actual or expected climatic change should be allowed for, as far as practicable, in order to ensure the feature's long-term viability.</p> <p>The overall vulnerability of this particular SPA to climate change has been assessed by Natural England as being low, taking into account the sensitivity, fragmentation, topography and management of its supporting habitats. This means that it is considered to be vulnerable overall but are a lower priority for further assessment and action. Individual species may be more or less vulnerable than their supporting habitat itself. In many cases, change will be inevitable so appropriate monitoring would be advisable.</p>	NATURAL ENGLAND, 2015. <i>Climate Change Theme Plan and supporting National Biodiversity Climate Change Vulnerability assessments ('NBCCVAs') for SACs and SPAs in England</i> . Available at: <a href="http://publications.naturalengland.org.uk/publication/4954594591375360">http://publications.naturalengland.org.uk/publication/4954594591375360</a> .
<b>Supporting habitat (both within and outside the SPA): function/ supporting process</b>	<b>Air quality</b>	Restore as necessary the concentrations and deposition of air pollutants to at-or-below the site-relevant Critical Load or Level values given for the supporting habitats for this feature of the site on the Air Pollution Information System ( <a href="http://www.apis.ac.uk">www.apis.ac.uk</a> ).	The structure and function of the habitats which support this SPA feature are 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 and thereby affecting the quality and availability of nesting, feeding or roosting habitats. Critical Loads and Levels are thresholds below which such harmful effects on sensitive UK habitats will not occur to a noteworthy level, according to current levels of scientific understanding. There are habitat/soil critical levels for ammonia (NH <sub>3</sub> ), oxides of nitrogen (NO <sub>x</sub> ) and sulphur dioxide (SO <sub>2</sub> ), 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	<p>More information about site-relevant Critical Loads and Levels for this SPA is available by using the 'search by site' tool on the Air Pollution Information System (<a href="http://www.apis.ac.uk">www.apis.ac.uk</a>).</p> <p>UK Air Information Resource. <a href="http://uk-air.defra.gov.uk/data">http://uk-air.defra.gov.uk/data</a></p>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>pollution, within realistic timescales. However where critical loads/levels are currently exceeded local developments should not exacerbate local conditions. 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>Target set to Restore because the current levels of nitrogen and acid deposition (APIS accessed 23/01/2019) exceed the critical loads for merlin supporting habitat.</p> <p>As a staged recovery the target for Peak District Moors SPA should be to transition to the next lower class of critical load exceedance i.e., for Acidity reduce deposition to 0.5-1.0 <math>k_{eq}</math>/ha/yr and for nutrient Nitrogen reduce deposition to between 7-14 kgN/ha/yr.</p>	<p>HALL, J. &amp; SMITH, R. 2015. <i>Trends in critical load exceedances in the UK</i>. Report to DEFRA. Available at: <a href="http://www.cldm.ceh.ac.uk/sites/cldm.ceh.ac.uk/files/TrendsReport_June2015_WEB.pdf">http://www.cldm.ceh.ac.uk/sites/cldm.ceh.ac.uk/files/TrendsReport_June2015_WEB.pdf</a></p>
<b>Supporting habitat (both within and outside the SPA): function/ supporting process</b>	<b>Conservation measures</b>	<p>Maintain and Restore management and/or other measures (whether within and/or outside the site boundary as appropriate) as necessary to Maintain or Restore the structure, function and/or the supporting processes associated with the breeding merlin feature and its supporting habitats.</p>	<p>Active and ongoing conservation management is often needed to protect, maintain or restore this feature at this site. Active management of this feature (supporting habitat in general, but principally long heather or mature-degenerate phase heather) will have the potential to affect merlin nest sites. The aim is restore frequent distribution of long vegetation at sufficient parcel size across suitable habitat and in particular at historic merlin nest locations</p> <p>Direct disturbance during breeding cycle (see calendar at 2.1) in sensitive areas must be avoided however, caution must also be taken in action taken at other times in the year (such as cutting or burning of heather) to avoid loss of suitable habitat for future seasons. Further details about the necessary conservation measures for this site can be provided by Natural England on a site by site basis.</p> <p>This information is sensitive and will not be published in the detail required for casework or development. Information will be incorporated into Long Term moorland Management Plans and other land management plans.</p>	<p>NATURAL ENGLAND, 2014. <i>Site Improvement Plan: South Pennine Moors (SIP225)</i>. Available at: <a href="http://publications.naturalengland.org.uk/publication/5412834661892096">http://publications.naturalengland.org.uk/publication/5412834661892096</a></p> <p>Moorland management plans, Long Term Plans and Vegetation Management Plans. Where published, available at: <a href="http://publications.naturalengland.org.uk/category/5678995878182912">http://publications.naturalengland.org.uk/category/5678995878182912</a></p>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
				Local Raptor Study Group consultation.  Peak District Bird of Prey project liaison.
<b>Supporting habitat (both within and outside the SPA): function/ supporting process</b>	<b>Food availability within supporting habitat</b>	Maintain the overall availability of small birds and day flying moths in the breeding season.	<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>Merlin feed chiefly on small birds caught in open country, though small mammals and insects are often important. The merlin hunts by perching in an elevated position, usually on rocks or tree stumps to locate its prey. Prey is usually caught in the air close to or on the ground. Prey is plucked and decapitated before being brought to the nest.</p> <p>This target will also apply to any supporting feeding habitat which is known to occur outside the SPA boundary but is considered critical to the breeding SPA population (such as Stalybridge Moor, Thurlstone Moor and Canyards Hills).</p>	<p>BROWN, A.F. &amp; SHEPHERD, K.B. 1991. <i>Breeding birds of the South Pennine Moors</i>. JNCC Report No 7.</p> <p>CARR, G. &amp; MIDDLETON, P. 2005. <i>Breeding Bird Survey of the Peak District Moorlands 2004</i>. MFF Report</p> <p>SHEPHERD, K.B. 2005. <i>Peak District Moors Breeding Bird Survey 2005</i>. Unpublished report presented to English Nature.</p> <p>WATERMANS PLC, 2018. <i>Peak District Moors Breeding Bird Survey</i>. Report commissioned by Natural England from Moors for the Future (MFF) <i>in draft</i></p>
<b>Supporting habitat (both within and outside</b>	<b>Landscape</b>	Maintain a high proportion of open and unobstructed terrain within and around nesting and feeding areas used by breeding	Merlin are 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	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
the SPA): structure		Merlin.	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.	
Supporting habitat (within the SPA): extent and distribution	Extent and distribution of supporting breeding habitat	Restore frequent distribution of long vegetation at sufficient parcel size across suitable habitat and in particular at historic merlin nest sites	<p>Merlin are territorial breeding birds which hunt live prey within a wider hunting range (non-exclusive) to support the breeding cycle. The territory distribution may be more strongly determined by suitable breeding ground and the continuity of suitable habitat (hunting range) rather than proximity to an adjacent territory, but the core area requirements are thought to be 150-250 ha. It is important that the features required for breeding are distributed across all land suitable to maintain territories within the protected site. Density of pairs may surpass 5 pairs per 100km<sup>2</sup></p> <p>Maintaining, 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.</p>	<p>Local raptor study group (annual monitoring)</p> <p>Peak District Bird of Prey project (annual).</p> <p>BIBBY, C.J. &amp; NATTRASS, M. 1986. <i>Breeding status of the merlin in Britain</i>. British Birds <b>79</b>: 170-185</p> <p>EWING, S.R., REBECCA, G.W., HEAVISIDES, A., COURT, I.R., LINDLEY, P., RUDDOCK, M., COHEN, S. &amp; EATON, M.A. 2011. <i>Breeding status of Merlin Falco columbarius in the UK in 2008</i>. Bird Study <b>58</b>: 379-389</p> <p>HARDEY, J., CRICK, H., RILEY, H. &amp; ETHERIDGE, B. 2013. <i>Raptors: A Field Guide to Survey and Monitoring</i>. 3<sup>rd</sup> edition. TSO.</p>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
Supporting habitat (within the SPA): predation	Predation	Monitor the impact if any and, where appropriate, restrict predation and disturbance of breeding Merlin 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 during the breeding phase. The presence of predators can influence bird behaviours, such as abandonment of nest sites or reduction of effective feeding. Where evidence suggests predator management may be required, measures can be considered. Any such measures must consider the legal protection of some predators, as well as the likely effects of such control on other qualifying features.	EWING, S.R., REBECCA, G.W., HEAVISIDES, A., COURT, I.R., LINDLEY, P., RUDDOCK, M., COHEN, S. & EATON, M.A. 2011. <i>Breeding status of Merlin Falco columbarius in the UK in 2008</i> . Bird Study <b>58</b> : 379-389  Local raptor study group (annual monitoring)  Peak District Bird of Prey Project Report (annual).
Supporting habitat (within the SPA): structure	Vegetation characteristics	Maintain and Restore a high proportion of medium to tall (>50 cm) ground vegetation within nesting habitat.	The height, cover, variation and composition of vegetation are important characteristics of the habitats supporting merlin which enable successful nesting/rearing/concealment/roosting. Peak District merlin require suitable nesting habitat in the right places (mature-degenerate heather in blocks larger than standard management burn size of 20x50m). In addition the surrounding habitat (bog and heath) should support small passerines - principally meadow pipit, but adjacent habitats of scrub/scattered trees, bracken, rush-beds and hedges will support other species that merlin may prey upon. Activities that may directly or indirectly affect the vegetation of supporting habitats and modify these characteristics may adversely affect the feature.	
<b>Version Control</b> Advice last updated: n/a				
<b>Variations from national feature-framework of integrity-guidance:</b> The targets for some attributes listed above include both 'Maintain' and 'Restore' objectives. This is because this SPA is an extensive complex of geographically-separate component sites which are currently in different states of condition. Overall, both objectives will be applicable to the SPA but these will differ between each component site depending on its particular circumstances. Natural England will be able to provide further specific advice on request.				

**Table 2: Supplementary Advice for Qualifying Features: A140. *Pluvialis apricaria*; European golden plover (Breeding)**

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
<b>Breeding population (within the SPA)</b>	<b>Population abundance</b>	Maintain the size of the breeding Golden Plover population at above 400 breeding pairs, whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent	See the explanatory notes for this attribute in Table 1 above.  Previous counts include >435prs 1990; c490prs 2004/2005; 627prs 2018.	BROWN, A.F. & SHEPHERD, K. B. 1991. <i>Breeding birds of the South Pennine Moors</i> . JNCC Report No 7.  CARR, G. & MIDDLETON, P. 2005. <i>Breeding Bird Survey of the Peak District Moorlands</i> 2004. MFF Report  SHEPHERD, K. B. 2005. <i>Peak District Moors Breeding Bird Survey 2005</i> . Unpublished report presented to English Nature.  WATERMANS PLC, 2018. <i>Peak District Moors Breeding Bird Survey</i> . Report commissioned by Natural England from Moors for the Future (MFF) <i>in draft</i>
<b>Supporting habitat (both within and outside the SPA):</b>	<b>Connectivity with supporting habitats</b>	Maintain the safe passage of Golden Plovers moving between nesting, feeding and/or roosting areas during the breeding season	The ability of the feature to safely and successfully move to and from nesting, feeding and roosting areas is critical to their breeding success and to the adult fitness and survival.  This target will apply within the site boundary and where birds regularly	



Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
function/ supporting process			move to and from off-site habitat where this is relevant.	
Supporting habitat (both within and outside the SPA): function/ supporting process	Conservation measures	Maintain and in places Restore the management or other measures (whether within and/or outside the site boundary as appropriate) as necessary to Maintain and Restore the structure, function and/or the supporting processes associated with the breeding golden plover feature and its supporting habitats.	<p>Golden plover actively select wet blanket bog at altitude as breeding habitat. Active and ongoing conservation management is needed to protect, maintain and restore blanket bog at this site.</p> <p>Other measures will also be required, and in some cases, these measures may apply to areas outside of the designated site boundary in order to achieve the target for off-site feeding grounds. Further details about 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 individual management agreements/Long Term Plans.</p>	<p>Long Term Management plans. Where published available at: <a href="http://publications.naturalengland.org.uk/category/5678995878182912">http://publications.naturalengland.org.uk/category/5678995878182912</a></p> <p>BROWN, A.F. &amp; SHEPHERD, K.B. 1991. <i>Breeding birds of the South Pennine Moors</i>. JNCC Report No 7.</p> <p>CARR, G. &amp; MIDDLETON, P. 2005. <i>Breeding Bird Survey of the Peak District Moorlands 2004</i>. MFF Report</p> <p>SHEPHERD, K. B. 2005. <i>Peak District Moors Breeding Bird Survey 2005</i>. Unpublished report presented to English Nature.</p> <p>WATERMANS PLC, 2018. <i>Peak District Moors Breeding Bird Survey</i>. Report commissioned by Natural England from Moors for the Future</p>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
				(MFF) <i>in draft</i>
Supporting habitat (both within and outside the SPA): function/supporting process	Food availability within supporting habitat	<p>Maintain the availability of key prey items (e.g. earthworm, leatherjackets, beetles, spiders) at prey sizes preferred by Golden Plover</p> <p>Maintain existing, and elsewhere restore the amount of prey-rich grassland feeding habitat within 4 km of moorland nesting areas.</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>The diet of Golden Plover consists of invertebrates (mainly beetles, crane-fly larvae and earthworms), and so marginal or low-intensity grassland and marshy areas rich in invertebrate food, adjacent or near to moorland nesting habitat, are important feeding grounds in the summer.</p> <p>Golden plover will use adjacent grassland within 4km of moorlands (used for nesting) for feeding. These areas are important for the support they provide to the overall habitat requirement of the feature during the breeding cycle. Groups of males and groups of females have been recorded leaving the breeding grounds at different times of the day to visit local in-bye fields.</p> <p>Wader surveys of adjacent in-bye should include provision to record golden plover (including early/late site recording visits). Local environmental land management schemes to consider suitability of low intensity grazed in-bye for foraging by waders in general and specifically golden plover.</p>	
Supporting habitat (both within and outside the SPA): function/supporting process	Hydrology	Restore water availability to Golden Plover feeding sites and expand the area of wet active blanket bog or other flooded land overall.	Changes in source, depth, duration, frequency, magnitude and timing of water supply or flow can have important implications for this feature. Such changes may affect the quality and suitability of habitats used by birds for nesting, drinking, preening, rearing, feeding or roosting. Unless these have already been undertaken, further site-specific investigations may be required to fully inform conservation measures for this feature and/or the likelihood of impacts on this attribute.	
Supporting habitat (both within and outside the SPA): function/supporting	Water quality/quantity	Restore water quality and quantity to a standard which provides the necessary habitat conditions to support the breeding Golden Plover population.	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. Further site-specific investigations may be required to establish appropriate standards for the SPA.	MOORS FOR THE FUTURE, 2017. <i>Blanket bog restoration management guide</i> . Available at: <a href="http://www.moorsforthefuture.org.uk/blanket-">http://www.moorsforthefuture.org.uk/blanket-</a>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
process			<p>Surface wetness is important and restoration of that feature continues to be an important part of the conservation measures for golden plover (among other wader species). Where wet conditions exist the feature should be maintained. Golden plover occupy by preference rain-fed blanket peats with a high surface water level. This habitat supports the open habitat they favour and provides ample insect life that provides food for developing chicks (the adults undertake a significant part of their foraging off-site on pasture land).</p> <p>Under rain-fed systems such as blanket bog the air quality will contribute significantly to the water quality received on site. Surface water features (bog pools) should be evident and elsewhere gully blocks will indicate success in maintaining a high water table. In areas of bare peat and broken ground subject to summer drying interventions should support locally wet conditions. Surface water and rainfall parameters of environmental quality will aim for a trend towards achieving habitat specific thresholds consistent with restoring condition (primarily blanket peat and vegetation).</p>	<p><a href="#">bog-land-management-guidance</a>.</p> <p>UK Upland Water Monitoring Network Annual Summary (Station: River Etherow) (<a href="http://awmn.defra.gov.uk">http://awmn.defra.gov.uk</a>)</p> <p>Moors for the Future Research Reports/Information Notes. Available at: <a href="http://www.moorsforthefuture.org.uk/research-publications">http://www.moorsforthefuture.org.uk/research-publications</a></p>
Supporting habitat (both within and outside the SPA): structure	Landscape	Maintain open and unobstructed terrain within and around nesting and no overall reduction in field size.	Golden plover favour large areas of open terrain, largely free of obstructions, in and around its nesting areas. Often there is a need to maintain an unobstructed line of sight within nesting and feeding 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.	
Supporting habitat (within the SPA): extent and distribution	Extent and distribution of supporting breeding habitat	Maintain and Restore the extent, distribution and availability of suitable breeding habitat which supports the breeding Golden Plover feature for all necessary stages of its breeding cycle (courtship, nesting, feeding).	<p>Golden plover actively select wet blanket bog at altitude as breeding habitat. This habitat is abundant within the site boundary, it is widespread across the site, but it is not evenly distributed across the site. The bulk of the habitat occurs within the Dark Peak SSSI and the frequency and abundance of breeding golden plovers reflects this. In particular high altitude blanket bog is more extensive in the central and northern parts of the SPA with wetter bogs being more abundant in the west and the north. Recent restoration efforts have shown that golden plover will respond to the restoration of blanket bog.</p> <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</p>	<p>MOORS FOR THE FUTURE, 2017. <i>Blanket bog restoration management guide</i>. Available at: <a href="http://www.moorsforthefuture.org.uk/blanket-bog-land-management-guidance">http://www.moorsforthefuture.org.uk/blanket-bog-land-management-guidance</a>.</p>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			to the nature, age and accuracy of data collection.	
<b>Supporting habitat (within the SPA): function / supporting process</b>	<b>Air quality</b>	Restore where necessary the concentrations and deposition of air pollutants to below the site-relevant Critical Load or Level values given for the supporting habitats of this feature of the site on the Air Pollution Information System ( <a href="http://www.apis.ac.uk">www.apis.ac.uk</a> ).	See the explanatory notes for this attribute in Table 1 above.  Target set to Restore because the current levels of nitrogen and acid deposition (APIS accessed 23/01/2019) exceed the critical loads for golden plover supporting habitat.	More information about site-relevant Critical Loads and Levels for this SPA is available by using the 'search by site' tool on the Air Pollution Information System ( <a href="http://www.apis.ac.uk">www.apis.ac.uk</a> ).  UK Air Information Resource. <a href="http://uk-air.defra.gov.uk/data">http://uk-air.defra.gov.uk/data</a>  HALL, J. & SMITH, R. 2015. <i>Trends in critical load exceedances in the UK</i> . Report to DEFRA. Available at: <a href="http://www.cldm.ceh.ac.uk/sites/cldm.ceh.ac.uk/files/TrendsReport_June2015_WEB.pdf">http://www.cldm.ceh.ac.uk/sites/cldm.ceh.ac.uk/files/TrendsReport_June2015_WEB.pdf</a>
<b>Supporting habitat (within the SPA): minimising disturbance</b>	<b>Minimising disturbance caused by human activity</b>	Restrict the frequency, duration and/or intensity of disturbance affecting nesting, roosting, foraging, feeding, moulting and/or loafing birds so that the breeding golden plover population is not significantly disturbed.	Golden plover seek remote open moors away from significant activity. These birds treat intrusion into the area of breeding as a potential threat and they exhibit display behaviour consistent with disturbance. The nature, scale, timing and duration of some human activities can result in the persistent 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 use of vehicles, creating noise, light, vibration, trampling, the	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>presence of people (and their persistence), animals (especially dogs) and temporary structures in the landscape.</p> <p>Public footpaths help to minimise the zone of disturbance to a narrower space, this includes people accompanied by dogs</p>	
<b>Supporting habitat (within the SPA): predation</b>	<b>Predation</b>	Monitor the impact if any and, where appropriate, restrict the predation and disturbance of breeding Golden Plover caused by native and non-native predators.	Golden plover select remote open moors which are naturally low in resident predators, these birds also use behaviour and camouflage to reduce disturbance or detection. 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 from monitoring suggests predator management is required, measures can include their exclusion through fencing and scaring or by direct control. It is to be expected that those areas that do undertake predator control should see fewer losses to this threat. Any such measures must consider the legal protection of some predators, as well as the likely effects of such control on other qualifying features.	Peak District National Park Authority Bird of Prey Project (annual report)
<b>Supporting habitat (within the SPA): structure</b>	<b>Vegetation characteristics</b>	<p>Maintain a mosaic [1:3] ratio of short (&lt;5 cm) to medium (10-15 cm) vegetation within breeding areas.</p> <p>Maintain areas with unrestricted views &gt;200m with an effective field size &gt;10ha</p>	The height, cover, variation and composition of vegetation are important characteristics of habitats supporting golden plover which enable successful nesting/rearing/concealment/roosting. Golden plover select open bog habitat where wet conditions favour low uneven vegetation and an open generally flat aspect that affords extensive views from ground level across the habitat. Activities that may directly or indirectly affect the vegetation of supporting habitats and modify these characteristics may adversely affect the feature.	NATURAL ENGLAND, 2005. <i>Upland Bird Assessment Table</i>
<b>Version Control</b> Advice last updated: n/a				
<b>Variations from national feature-framework of integrity-guidance:</b> Removed 'Supporting habitat: roosting' attribute. Removed 'Supporting habitat/Landscape/grassland' as repeated in 'Food availability' attribute.				
The targets for some attributes listed above include both 'Maintain' and 'Restore' objectives. This is because this SPA is an extensive complex of geographically-separate component sites which are currently in different states of condition. Overall, both objectives will be applicable to the SPA but these will differ between each component site depending on its particular circumstances. Natural England will be able to provide further specific advice on request.				

**Table 3: Supplementary Advice for Qualifying Features: A222. *Asio flammeus*; Short-eared owl (Breeding)**

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
<b>Breeding population (within the SPA)</b>	<b>Population abundance</b>	Maintain the size of the breeding Short-eared Owl population at a level that is consistently above 22 breeding pairs (in peak years), whilst avoiding deterioration from its current level as indicated by the latest mean peak count or equivalent.	<p>See the explanatory notes for this attribute in Table 1 above.</p> <p>Population abundance as a breeding bird is difficult to assess for this species.</p>	<p>Peak District National Park Authority Bird of Prey Initiative. Liaison with local raptor workers, wardens and gamekeepers will attempt to census the species within the site.</p> <p>Local Raptor Study Groups will be approached for information by the network quoted above.</p>
<b>Supporting habitat (both within and outside the SPA): disturbance</b>	<b>Minimising disturbance caused by human activity</b>	Restrict the frequency, duration and/or intensity of disturbance affecting nesting, roosting, foraging, feeding, and/or loafing birds so that the breeding Short-eared Owl 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. 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, the presence of people, animals and structures.</p> <p>Measures that can help to minimise disturbance include open access restrictions on dogs, careful timing of organised recreational or training events and the encouragement of responsible use of open access land during the bird breeding season.</p> <p>The planning of activities in these areas at these times should be referred to Natural England for confidential advice.</p>	<p>Peak District Bird of Prey project (annual).</p> <p>Local raptor study groups will be consulted to provide site specific advice.</p>



Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
<b>Supporting habitat (both within and outside the SPA): extent and distribution</b>	<b>Extent and distribution of supporting breeding habitat</b>	<p>Maintain 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> <p>Baselines for this attribute are not known.</p>	<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.</p> <p>For this site it is considered that abundant suitable habitat exists for the baseline population plus an increase of 50% and it appears that sufficient suitable long vegetation in undisturbed areas might be a limiting factor.</p>	
<b>Supporting habitat (both within and outside the SPA): function/ supporting process</b>	<b>Adaptation and resilience</b>	<p>Maintain the ability of the feature's supporting habitats to adapt or evolve to wider environmental change, either within or external to the site</p>	<p>See the explanatory notes for this attribute in Table 1 above.</p>	<p>NATURAL ENGLAND, 2015. <i>Climate Change Theme Plan and supporting National Biodiversity Climate Change Vulnerability assessments ('NBCCVAs') for SACs and SPAs in England</i>. Available at: <a href="http://publications.naturalengland.org.uk/publication/4954594591375360">http://publications.naturalengland.org.uk/publication/4954594591375360</a>.</p>
<b>Supporting habitat (both within and outside the SPA): function/ supporting process</b>	<b>Conservation measures</b>	<p>Maintain and Restore 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 breeding short-eared owl population and its supporting habitats.</p>	<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>Maintain or Restore structural diversity in open landscape including maintaining some stands of bracken, rushbeds and tall dwarf shrub.</p>	<p>NATURAL ENGLAND, 2014. <i>Site Improvement Plan: South Pennine Moors (SIP225)</i>. Available at: <a href="http://publications.naturalengland.org.uk/publication/5412834661892096">http://publications.naturalengland.org.uk/publication/5412834661892096</a>. To be delivered on a case by case basis through vegetation management plans taking advice from site managers and local raptor workers.</p>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
				Moorland Management Plans, Long Term Plans and Vegetation Management Plans. Where published available at: <a href="http://publications.naturalengland.org.uk/category/5678995878182912">http://publications.naturalengland.org.uk/category/5678995878182912</a>
<b>Supporting habitat (both within and outside the SPA): function/supporting process</b>	<b>Food availability within supporting habitat</b>	Maintain the overall availability of prey species preferred by breeding Short-eared owl, particularly small mammals and small/medium sized birds.	<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>Extensive, low nutrient and naturally vegetated open ground supporting abundant vole populations will provide prey source for breeding short-eared owl.</p>	
<b>Supporting habitat (both within and outside the SPA): function/supporting process</b>	<b>Air quality</b>	Restore as necessary the concentrations and deposition of air pollutants to below the site-relevant Critical Load or Level values given for this feature of the site on the Air Pollution Information System ( <a href="http://www.apis.ac.uk">www.apis.ac.uk</a> ).	<p>See the explanatory notes for this attribute in Table 1 above.</p> <p>Target set to Restore because the current levels of nitrogen and acid deposition (APIS accessed 23/01/2019) exceed the critical loads for short-eared owl supporting habitat.</p>	<p>More information about site-relevant Critical Loads and Levels for this SPA is available by using the 'search by site' tool on the Air Pollution Information System (<a href="http://www.apis.ac.uk">www.apis.ac.uk</a>).</p> <p>UK Air Information Resource. <a href="http://uk-air.defra.gov.uk/data">http://uk-air.defra.gov.uk/data</a></p> <p>HALL, J. &amp; SMITH, R. 2015. <i>Trends in critical load exceedances in the UK</i>. Report to DEFRA. Available at: <a href="http://www.cldm.ceh.ac.uk">http://www.cldm.ceh.ac.uk</a>.</p>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
				<a href="http://uk/sites/cldm.ceh.ac.uk/files/TrendsReport_June2015_WEB.pdf">uk/sites/cldm.ceh.ac.uk/files/TrendsReport_June2015_WEB.pdf</a>
<b>Supporting habitat (both within and outside the SPA): function/supporting process</b>	<b>Water quality / quantity</b>	Maintain and Restore water quality and quantity at a standard which provides the necessary conditions to support the varied habitats used by short-eared owls to successfully nest, feed and roost.	<p>Poor water quality and inadequate quantities of water can adversely affect the availability and suitability of breeding, rearing, feeding and roosting habitats. 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 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.</p> <p>Short-eared owls require extensive open habitat of grass/sedge or low shrub form with ample access to live ground prey. Within the Peak District Moors much of this habitat is peatland and this habitat is 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.</p> <p>Under rain-fed systems such as blanket bog the air quality will contribute significantly to the water quality received on site. Surface water features (bog pools) should be evident and elsewhere gully blocks will indicate success in maintaining a high water table. In areas of bare peat and broken ground subject to summer drying interventions should support locally wet conditions. Surface water and rainfall parameters of environmental quality will aim for a trend towards achieving habitat specific thresholds consistent with restoring condition (primarily blanket peat and vegetation) but also acid flushes and rush-beds.</p>	<p>MOORS FOR THE FUTURE, 2017. <i>Blanket bog restoration management guide</i>. Available at: <a href="http://www.moorsforthefuture.org.uk/blanket-bog-land-management-guidance">http://www.moorsforthefuture.org.uk/blanket-bog-land-management-guidance</a>.</p> <p>UK Upland Water Monitoring Network Annual Summary (Station: River Etherow) <a href="http://awmn.defra.gov.uk">http://awmn.defra.gov.uk</a></p> <p>Moors for the Future Research Reports/Information Notes. Available at: <a href="http://www.moorsforthefuture.org.uk/research-publications">http://www.moorsforthefuture.org.uk/research-publications</a></p>
<b>Supporting habitat (both within and outside the SPA): structure</b>	<b>Landscape</b>	Maintain the amount of open and unobstructed terrain within and around nesting, roosting and feeding areas.	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 (although tall vegetation is required for nesting, the species is relatively long legged and capable of unobtrusive observation of its surroundings, together with acute hearing), 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.	Tree planting to follow: 'Guide to Clough Woodlands advice package' available at: <a href="http://www.moorsforthefuture.org.uk/clough-woodland-project">http://www.moorsforthefuture.org.uk/clough-woodland-project</a>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
<b>Supporting habitat (within the SPA): predation</b>	<b>Predation</b>	Monitor the impact if any and, where appropriate, restrict the predation and disturbance of breeding short-eared owl caused by native and non-native predators.	<p>Short-eared owls nest on the ground and they are vulnerable to predation. The birds have adaptive methods to reduce this impact and in general it is considered that in suitable extensive habitat this is sufficient to maintain predation as a low risk to the population.</p> <p>Where predation control is undertaken it is likely that short-eared owls should be expected to benefit along with other ground nesting birds although this is not always evident from surveys. 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.</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 this or other qualifying features.</p> <p>Restrict tree or woodland encroachment into open landscapes used by breeding Short-eared Owls.</p>	Local Bird of Prey Project liaison with keepers and wardens to maintain an overview of the potential for a threat to the feature.
<b>Supporting habitat (within the SPA): structure</b>	<b>Vegetation characteristics</b>	Maintain and Restore a mosaic of short and medium semi-natural vegetation throughout the nesting areas within the SPA	The height, cover, variation and composition of vegetation are often important characteristics of habitats supporting this feature which enable successful nesting/rearing/concealment/roosting. Short-eared owl require relatively long vegetation (tall heather, rushes, and grasses) distributed across the landscape to provide sufficient cover. The target reflects the view that excessive management has reduced the structural diversity (and in some cases continues this trend). Many bird species will have specific requirements that conservation measures will aim to maintain, for others such requirements will be less clear. Activities that may directly or indirectly affect the vegetation of supporting habitats and modify these characteristics may adversely affect the feature.	Moorland management plans, Long Term Plans and Vegetation Management Plans. Where published available at: <a href="http://publications.naturalengland.org.uk/category/5678995878182912">http://publications.naturalengland.org.uk/category/5678995878182912</a>
<b>Version Control</b> Advice last updated: n/a				
<b>Variations from national feature-framework of integrity-guidance:</b>  The targets for some attributes listed above include both 'Maintain' and 'Restore' objectives. This is because this SPA is an extensive complex of geographically-separate				

Attributes	Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
component sites which are currently in different states of condition. Overall, both objectives will be applicable to the SPA but these will differ between each component site depending on its particular circumstances. Natural England will be able to provide further specific advice on request.			