



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

**Avon Valley
Special Protection Area (SPA)
Site Code: UK9011091**



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About this document

This document provides Natural England's supplementary advice for the European Site Conservation Objectives relating to Avon Valley 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	Avon Valley Special Protection Area
Location	Hampshire, Dorset
Site Map	The designated boundary of this site can be viewed here on the MAGIC website
Designation Date	February 1998
Qualifying Features	See section below
Designation Area	1351.1 hectares
Designation Changes	Not applicable
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)	Avon Valley (Bickton to Christchurch) SSSI
Relationship with other European or International Site designations	The boundary of this SPA overlaps with Avon Valley Ramsar boundaries, except that the Ramsar boundaries extend beyond the SPA at Kingston North Common, and Pitt House Farm. River Avon SAC follows the path of the river and so lies within and extends beyond the boundaries of this SPA.

Site background and geography

The proposed Avon Valley – Bickton to Christchurch Special Protection Area lies along the border of Hampshire and Dorset, between the new Forest and the heath and woodland areas north of Bournemouth. It encompasses the lower reaches of the River Avon and its floodplain between Bickton and Christchurch. The Avon Valley SPA sits within the [New Forest National Character Area](#) (NCA). The NCA encompasses the New Forest National Park, which accounts for 75% of the NCA, as well as the lower Hampshire Avon Valley in the west and the urbanised waterside from Totton to Fawley in the east, with major oil-energy and port-related industry along Southampton Water. The majority of the area is a plateau of Palaeogenic deposits overlain by Quaternary gravels in river terraces, averaging around 80-100 m above sea level. The Avon Valley is distinctly different, with a wide, flat valley bottom of mostly derelict water meadows and pasture and arable land around a braided river, linked with the Forest through grazing tradition. The Avon Valley sits on the western edge of the New Forest NCA, and is bordered by the [Dorset Heaths](#) NCA to the west. The majority of the catchment for the River Avon lies to the north in northern Hampshire and Wiltshire, including the [Salisbury Plain and West Wiltshire Downs](#) NCA.

The valley is predominantly on alluvial soils, but there are deposits of sand which give rise to a more sand dune or heath-like flora in places. Much of the valley is open grassland fields with ditches on their boundaries. There are small woodland and fen areas and the SPA includes a series of old gravel pits that are now flooded and add to the sites importance. The site qualifies for 2 species of over wintering wildfowl Bewick's Swan and Gadwall. The site also supports a nationally important assemblage of breeding wetland birds and is especially important for breeding waders associated with lowland wet

grassland. The floodplain grassland and the gravel pits provide feeding and roosting areas for nationally or internationally important populations of five species of wintering wildfowl.

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 non-breeding season the SPA regularly supports:

- **A037 *Cygnus columbianus bewickii*; Bewick's swan**

Bewick's swan are the smallest of the 3 swan species that occur in the UK. Adults are white all over and young birds are grey with a pinkish bill. Compared to the similar whooper swan, Bewick's have proportionally more black and less yellow on their bill. They are also smaller than both mute and whooper swans and have faster wingbeats. Each winter Bewick's swans migrate to the UK from Siberia.

In the five year period 1988/89 to 1992/93, an average of 156 Bewick's swans were recorded on the site in winter, representing 2.2% of the British population. In recent years the wintering population of Bewick's Swan has decreased greatly, in line with much of south east England. Over the last 4 years, between 2014/15 and 2017/18, there has been a maximum of 1 individual using the SPA and in two of those winters there were no Bewick's Swans in the SPA.

Bewick's Swan use short, open wet grassland areas for feeding and, usually, open water e.g. lakes, reservoirs or flooded grassland areas for roosting. Much of the Avon Valley comprises short, open wet grassland, but the only areas of open water lakes are at Blashford Lakes which are immediately north of Ringwood, in the northern part of the Avon Valley SPA. However, Bewick's Swans have not utilised all of the grassland areas of the SPA. In the Avon Valley, Bewick's Swan have always used the grassland areas around Harbridge and Ibsley (approx. 2 miles north of Ringwood) for feeding and the nearby Blashford Lakes for roosting. Other parts of the SPA have been used very little by Bewick's Swan.

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

During the non-breeding season the SPA regularly supports:

- **A051 *Anas strepera*; Gadwall**

Gadwall are medium-sized dabbling ducks, a little smaller than mallards. Males are slightly larger than females, and are a grey-brown colour with a black rear. Females are browner all over, but both sexes have a distinctive white speculum that is particularly noticeable during flight. Their numbers and breeding distribution have increased over the last 40 years and they now breed and winter over much of lowland UK. In winter numbers are augmented by birds from Iceland and continental Europe.

In the five year period 1988/89 to 1992/93 an average of 418 Gadwall were recorded on the site in winter, representing 8.4% of the British population and 3.5% of the north-west European population. At classification, the Avon Valley SPA supported 667 individuals, representing at least 2.2% of the North-western European wintering population. The wintering population has increased to a five year average of 829 individuals for 2012-17. This represents approximately 3.3% of UK wintering population. The decrease in percentage of UK population is due to the huge increase in wintering populations elsewhere in UK. (WeBS data from the BTO). Within the SPA, Blashford Lakes Gravel Pits are particularly important for these wintering birds.

Gadwall use freshwater bodies such as lakes and reservoirs all year. They feed on water weed and so require fairly nutrient rich waters with a high abundance of water weed. In the Avon Valley they mostly use Blashford Lakes in winter, but they will breed along the river itself and ditches in the valley.

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>Bewick's Swan</i>	<i>Non-breeding</i>	<i>Winter</i>													
<i>Gadwall</i>	<i>Non-breeding</i>	<i>Winter</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: A037. *Cygnus columbianus bewickii*; Bewick swan

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
Non-breeding population	Population abundance	Restore the size of the non-breeding Bewick's swan population at a level which is above a mean of 156 individuals.	<p>This will sustain the site's population and contribute to a viable local, national and bio-geographic population.</p> <p>Due to the mobility of birds and the dynamic nature of population change, the target-value given for the abundance of this feature is considered to be the minimum standard for conservation/restoration measures to achieve. This minimum-value may be revised where there is evidence to show that a population's abundance 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.</p> <p>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</p>	<p>WeBs counts. www.bto.org</p> <p>Hampshire Bird Atlas 2007 – 2012.</p>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>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 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> <p>Target is set here as restore due the significant decline in Bewick's Swan numbers since notification. The latest figures show that current numbers of Bewick's Swan wintering in the Avon Valley SPA are 0. This is not thought to be due to changes in management, but are thought to be natural shifts in population away from south east England. Target will remain as restore until there is confirmation that there are no on-site issues causing these declines. .</p>	
Supporting habitat (both within and outside the SPA): extent and distribution	Extent and distribution of supporting non-breeding habitat	<p>Maintain the extent and distribution of suitable habitat (either within or outside the site boundary) which supports Bewick's Swan for all necessary stages of the non-breeding/wintering period (moulting, roosting, loafing, feeding).</p> <p>All areas of open grassland should be maintained as such within the SPA.</p> <p>Extent of open water within the</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.</p> <p>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 may apply to supporting habitat which also lies outside the site boundary.</p> <p>The principal habitat used by Bewick's Swans at this SPA are improved and semi-improved grassland, unimproved wet grassland and rush-pasture.</p> <p>Blashford Lakes is often used as a roosting site by any</p>	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
		SPA should be maintained.	Bewick's swans that are wintering in the SPA. The grasslands north of Ibsley Bridge are the principle areas of the SPA used for feeding by Bewick's swans.	
Supporting habitat (both within and outside the SPA): function/supporting process	Connectivity with supporting habitats	Maintain the safe passage of birds moving between roosting and feeding areas	The ability of the feature to safely and successfully move to and from 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 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 management or other measures (whether within and/or outside the site boundary as appropriate) necessary to maintain the structure, function and/or the supporting processes associated with Bewick's swan and its supporting habitats.	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 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. Land management measures are currently being delivered through a series of Higher Level Scheme agreements	English Nature (2005), Views about Management, Avon Valley (Bickton to Christchurch) SSSI. Natural England (2015), Site Improvement Plan – Avon River & Valley
Supporting habitat (both within and outside the SPA): function/supporting process	Food availability within supporting habitat	Maintain cover/abundance of preferred food plants (e.g. <i>Lolium perenne</i> , <i>Glyceria fluitans</i> , <i>Phleum pratense</i> , <i>Rorippa amphibia</i> , <i>Alopecurus geniculatus</i>).	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.	This attribute will be periodically monitored as part of Natural England's SSSI Condition Assessments
Supporting habitat	Hydrology/flow	Maintain hydrological processes to ensure water availability in	Changes in source, depth, duration, frequency, magnitude and timing of water supply or flow can have important implications	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
(both within and outside the SPA): function/ supporting process		feeding sites, with visible areas of standing shallow water.	<p>for this feature. Such changes may affect the quality and suitability of habitats used by birds for nesting, drinking, preening, rearing, feeding or roosting.</p> <p>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.</p> <p>There should be no man-induced restrictions to the flow of water from the river into the floodplain other than the protection of property from flooding.</p>	
Supporting habitat (both within and outside the SPA): function/ supporting process	Water area	Maintain the number of large waterbodies of optimal size (typically >10 ha).	<p>This feature depends on the presence and continuity of open water habitat; often requiring water bodies of a particular size to in order to successfully nest, rear their young, feed and/or roost. Changes in water area, and associated marginal habitat, can adversely affect the suitability of supporting open water habitat.</p> <p>Blashford Lakes are the principle area used for roosting by any Bewick's swan that are in the valley. As such they should be maintained and the margins should have low trees or few tall trees.</p>	
Supporting habitat (both within and outside the SPA): function/ supporting process	Water quality/quantity	<p>Where the supporting habitats of the SPA feature are dependent on surface water ensure water quality and quantity is maintained to a standard which provides the necessary conditions to support the feature.</p> <p>No specific targets of quantity of water should be set as the amount of water in the valley is very weather dependant.</p> <p>However there should be no</p>	<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.</p> <p>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 the SPA Conservation Objectives but in some cases more stringent standards may be needed to support the SPA feature.</p>	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
		man-made restrictions to the flow of water from the river into the floodplain other than the protection of property from flooding.	Further site-specific investigations may be required to establish appropriate standards for the SPA.	
Supporting habitat (both within and outside the SPA): minimising disturbance	Minimising disturbance caused by human activity	Restrict the frequency, duration and/or intensity of disturbance within close proximity of affecting 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, and desertion of supporting habitat (both within or outside the designated site boundary where appropriate). This may undermine successful feeding and/or roosting, and/or may reduce the availability of suitable habitat as birds are displaced and their distribution within the site contracts.</p> <p>Disturbance associated with human activity may take a variety of forms including noise, light, sound, vibration, trampling, and presence of people, animals and structures.</p>	
Supporting habitat (both within and outside the SPA): structure	Landscape	Maintain open and unobstructed terrain within and around roosting and feeding areas, with no overall decrease in field sizes	This feature is known to favour large areas of open terrain, largely free of obstructions, in and around its roosting and feeding areas. Often there is a need to maintain an unobstructed line of sight within feeding and 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.	
Supporting habitat (both within and outside the SPA): structure	Vegetation characteristics	Maintain the extent and distribution of predominantly short (<10 cm) grassland swards in areas used for feeding	<p>The height, cover, variation and composition of vegetation are often important characteristics of habitats supporting this feature which enable successful foraging. Many bird species will have specific requirements that conservation measures will aim to maintain, for others such requirements will be less clear.</p> <p>Activities that may directly or indirectly affect the vegetation of supporting habitats and modify these characteristics may adversely affect the feature.</p>	

Attributes	Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
Version Control Advice last updated: N/A			
Variations from national feature-framework of integrity-guidance: Removed attributes related to food availability that is not relevant to the supporting habitat present in the SPA.			

Table 2: Supplementary Advice for Qualifying Features: A051. *Anas strepera*; Gadwall (Non-breeding)

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
Non-breeding population	Population abundance	Maintain the size of the non-breeding population at a level which is above a mean of 418, 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 contribute 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 abundance 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.</p> <p>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</p>	BTO WeBS count

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>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 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>	
Supporting habitat (both within and outside the SPA): extent and distribution	Extent and distribution of supporting non-breeding habitat	<p>Maintain the extent and distribution of lake habitat which supports gadwall for all necessary stages of the non-breeding/wintering period (moulting, roosting, loafing, and feeding).</p> <p>Extent of standing open water within the SPA should be maintained.</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.</p> <p>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 may apply to supporting habitat which also lies outside the site boundary.</p> <p>The principal habitat used by wintering gadwall within the SPA are the Blashford Lakes.</p>	<p>BTO WeBS count</p> <p>Hampshire Ornithological Society Hampshire Bird Atlas 2007-2012</p>
Supporting habitat (both within and outside the SPA): function/ supporting process	Air quality	<p>Maintain 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>	<p>The structure and function of 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 and thereby affecting the quality and availability of nesting, feeding or roosting habitats.</p> <p>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 critical levels for ammonia (NH₃),</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 (www.apis.ac.uk).</p>

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			<p>oxides of nitrogen (NOx) and sulphur dioxide (SO2), and critical loads for nutrient nitrogen deposition and acid deposition. It is recognised that achieving this target may be subject to the development, availability and effectiveness of abatement technology and measures to tackle diffuse air pollution, within realistic timescales. There are currently no critical loads or levels for other pollutants such as Halogens, Heavy Metals, POPs, VOCs or Dusts. These should be considered as appropriate on a case-by-case basis.</p> <p>Ground level ozone is regionally important as a toxic air pollutant but flux-based critical levels for the protection of semi-natural habitats are still under development.</p>	
Supporting habitat (both within and outside the SPA): function/supporting process	Conservation measures	Maintain management or other measures (whether within and/or outside the site boundary as appropriate) necessary to maintain the structure, function and/or the supporting processes associated with gadwall 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.</p> <p>Further details about the necessary conservation measures for this site 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>English Nature (2005), Views about Management, Avon Valley (Bickton to Christchurch) SSSI.</p> <p>Natural England (2015) Avon Valley SPA, Site Improvement Plan.</p>
Supporting habitat (both within and outside the SPA): function/supporting process	Food availability within supporting habitat	Maintain a high cover/abundance of preferred food plants (e.g. sweet-grass <i>Glyceria fluitans</i> , creeping bent <i>Agrostis stolonifera</i> , stoneworts <i>Chara</i> , pondweeds <i>Potamogeton</i> , <i>Ceratophyllum</i> spp., <i>Ruppia</i>).	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.	This attribute will be periodically monitored as part of Natural England's SSSI Condition Assessments
Supporting habitat (both within and outside the SPA):	Water depth	Maintain the availability of standing water of optimal depth, typically <0.25 m deep, over at least 50% of the total standing water area.	Gadwall require extensive areas of water in which to feed. Gadwall are visual predators and feed from the surface. As the water weed they feed on is submerged, the depth of water at critical times of year may be paramount for successful feeding and therefore their fitness and survival.	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
function/ supporting process				
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 ensure water quality and quantity is maintained/ to a standard which provides the necessary conditions to support gadwall.	<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.</p> <p>Poor water quality and inadequate quantities of water can adversely affect the availability and suitability of breeding, rearing, feeding and roosting habitats, e.g. high phosphorus levels in Blashford Lakes could change the system from macrophyte-dominated to algal-dominated, reducing food availability.</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 the SPA Conservation Objectives but in some cases more stringent standards may be needed to support the SPA feature.</p> <p>Further site-specific investigations may be required to establish appropriate standards for the SPA.</p>	
Supporting habitat (both within and outside the SPA): minimising disturbance	Minimising disturbance caused by human activity	Restrict the frequency, duration and/or intensity of disturbance affecting roosting, foraging, feeding, moulting and/or loafing gadwall 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, and desertion of supporting habitat (both within or outside the designated site boundary where appropriate). This may undermine successful 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, and presence of people, animals and structures.</p>	

Attributes	Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
Version Control - Advice last updated: N/A			
Variations from national feature-framework of integrity-guidance: Attributes relating to breeding gadwall have been removed as they are not relevant to the wintering population that the SPA is notified for.			