



Document

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Chichester Site Allocation Development Plan Document

Habitat Regulations Assessment

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1 Introduction

1.1 Background to the Project

AECOM was appointed by Chichester District Council to assist the Council in undertaking a Habitat Regulations Assessment (HRA) of its Site Allocation Development Plan, which follows on from the adopted Chichester Local Plan: Key Policies 2014-2029 Development Plan Document. The objectives of the assessment were to:

- identify any site allocations that would cause an adverse effect on the integrity of the Natura 2000 sites, otherwise known as European Sites (Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and, as a matter of Government policy, Ramsar sites), either in isolation or in combination with other plans and projects; and
- advise on appropriate policy mechanisms for delivering mitigation where such effects were identified.

This latest document has been produced in light of the *People Over Wind and Sweetman v Coillte Teoranta* ECJ judgement (hereafter referred to as the *Sweetman* judgement)¹. This Document supersedes the Chichester Site Allocation: Proposed Submission Development Plan HRA Document produced by AECOM in 2016². Unlike that previous report, this HRA only assesses those sites which have been allocated in the plan as there is no legal requirement to assess sites that are not proposed for allocation.

The employment site allocations in the plan are shown in Appendix A. These are the following (policy numbers are in brackets):

- High School, Kingsham Road (7.2ha), (CC6);
- Plot 12 Terminus Road (2.4ha), (CC7);
- Fuel Depot site, Bognor Road (3.8ha), (CC8); and
- Springfield Park (adjacent to fuel depot) (2.4ha), (CC9).

The housing site allocations included in the plan are shown in Appendix B. These are the following:

- Highgrove Farm (50 dwellings), (BO1);
- Land west of The Street (22 dwellings), (BX1);
- Adjacent Tesco Petrol Station, Fishbourne Road (134 student flats), (CC1);
- Bartholomew's, Bognor Road (57 dwellings), (CC2);
- 117 The Hornet (35 dwellings), (CC3);
- Shopwyke Strategic Development Location, Oving (85 dwellings), (CC4);
- Land south of Reedbridge Farm (7 dwellings), (HN1); and
- Land north of Little Springfield Farm (10 dwellings), (PL1).

1.2 Legislation

The need for HRA is set out within Article 6 of the EC Habitats Directive 1992 and interpreted into British law by the Conservation of Habitats and Species Regulations 2017. The ultimate aim of the Directive is to *"maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of Community*

¹ *People Over Wind and Sweetman v Coillte Teoranta* (C-323/17).

² AECOM. (2016) Chichester Site Allocation: Proposed Submission Development Plan Document. Rev. No. 3, October 2016.

interest" (Habitats Directive, Article 2(2)). This aim relates to habitats and species rather than the European sites themselves, although the sites have a significant role in delivering favourable conservation status.

The Directive applies the 'precautionary principle'³ to European sites. Plans and projects can only be permitted having ascertained that there will be no adverse effect on the integrity of the site(s) in question. Plans and projects with predicted adverse impacts on European sites may still be permitted if there are no alternatives to them and there are Imperative Reasons of Overriding Public Interest (IROPI) as to why they should go ahead. In such cases, compensation would be necessary to ensure the overall integrity of the site network.

In order to ascertain whether or not site integrity will be affected, a process of screening (using a Likely Significant Effects (LSE) test), followed (if necessary) by an Appropriate Assessment (AA), should be conducted for the plan or project in question:

Box 1 The legislative basis for Appropriate Assessment.

Habitats Directive 1992

Article 6 (3) states that:

"Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives."

Conservation of Habitats and Species Regulations 2017

The Regulations state that:

"A competent authority, before deciding to ... give any consent for a plan or project which is likely to have a significant effect on a European site ... shall make an appropriate assessment of the implications for the site in view of that site's conservation objectives... The authority shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site".

Over time the term Habitat Regulations Assessment has come into wide currency to describe the overall process set out in the Conservation of Habitats and Species Regulations 2017, from screening through to Imperative Reasons of Overriding Public Interest. This has arisen in order to distinguish the process from the individual stage described in the law as an Appropriate Assessment. In this Document the term Habitat Regulations Assessment refers to the overall process.

1.3 Scope of the Project

There is no pre-defined guidance that dictates the physical scope of an HRA of a site allocation development plan. Therefore, in considering the physical scope of the assessment, we were guided primarily by the identified impact pathways rather than by arbitrary 'zones'. Current guidance suggests that the following European sites be included in the scope of assessment:

- All sites within the Local Plan area boundary (this excludes areas within Chichester District boundary that are located within the South Downs National Park. The South Downs National Park Authority controls its own Local Plan); and
- Other sites shown to be linked to development within the District boundary through a known 'pathway', which could include sites within the South Downs National Park (discussed below) or other surrounding authority boundaries.

³ The Precautionary Principle, which is referenced in Article 191 of the Treaty on the Functioning of the European Union, has been defined by the United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2005) as: *"When human activities may lead to morally unacceptable harm [to the environment] that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that harm. The judgement of plausibility should be grounded in scientific analysis"*.

Briefly defined, 'pathways' are routes by which a change in activity within the Local Plan area can lead to an effect upon a European site. In terms of the second category of European site listed above, guidance from the former Department of Communities and Local Government (now Ministry of Housing, Communities and Local Government, MHCLG) states that the HRA should be '*proportionate to the geographical scope of the [plan policy]*' and that '*an AA need not be done in any more detail, or using more resources, than is useful for its purpose*' (MHCLG, 2006, p.6).

There are five European site designations that lie wholly or partly within the Local Plan area, but outside of the South Downs National Park:

- Chichester and Langstone Harbours SPA and Ramsar site;
- Pagham Harbour SPA and Ramsar site; and
- Solent Maritime SAC.

Within Chichester District, but under the planning control of the South Downs National Park Authority, other sites are included within the HRA, as agreed with Natural England in the 2010 HRA scoping report⁴.

The list of sites outside of the area covered by the Chichester Local Plan, but subject to screening, is thus:

- Arun Valley SAC, SPA and Ramsar site;
- Duncton to Bignor Escarpment SAC;
- Ebernoe Common SAC;
- Solent and Dorset Coast SPA; and
- The Mens SAC.

These European site designations are indicated in Appendix C. In practice, the closest site allocation to Arun Valley SPA/SAC/Ramsar site is 8.5km distant, while the closest to Duncton to Bignor Escarpment SAC is approximately 8km distant. As such it is considered that the site allocations pose no identifiable pathways of impact to either of these European sites. They are therefore not discussed further in this Document.

The following sites were scoped out of the assessment of the developing Local Plan since there was no identifiable pathway linking development in the Local Plan area to these sites:

- Kingley Vale SAC;
- Rook Clift SAC;
- Singleton and Cocking Tunnels SAC;
- Butser Hill SAC;
- East Hampshire Hangers SAC;
- Shortheath Common SAC;
- South Wight Maritime SAC;
- Wealden Heaths Phase 2 SPA;
- Solent and Isle of Wight Lagoons SAC; and
- Thursley and Ockley Bogs Ramsar site.

Consideration has been given to whether individual site allocations raise pathways of impact affecting these European sites that could not be identified at the over-arching strategic level. However, no such pathways have been identified. As such, these sites are not considered further in this Document.

⁴ Scott Wilson. (2010) Appropriate Assessment of the LDF Core Strategy: Habitats Regulations Assessment Scoping Report. January 2010.

1.4 This Document

The Site Allocation Development Plan will not stand in isolation but is intended to provide further site-specific details on the overall strategy set out in the Local Plan. Similarly, the HRA of the Site Allocation Development Plan does not re-investigate all issues that were already considered at Local Plan level and in particular does not reinvestigate matters associated with the overall quantum of development proposed for the District or its broad distribution (since those were both investigated at Local Plan level). The HRA of the Site Allocation Development Plan is specifically intended to scrutinise each site allocation and determine which (if any) of the strategic issues identified in the Local Plan HRA apply to the site, whether mitigation must therefore be tied to that site and whether the site raises any issues that were not identified in the Local Plan HRA.

2 Methodology

2.1 Introduction

The HRA has been carried out in the continuing absence of formal central Government guidance, although general EC guidance on HRA does exist⁵. The former Department for Communities and Local Government released a consultation paper on the Appropriate Assessment of Plans in 2006⁶. As yet, no further formal guidance has emerged. However, Natural England has produced its own internal guidance⁷ as has the RSPB⁸. Both of these have been referred to alongside the guidance outlined in Section 1.2 in undertaking this HRA.

Figure 1 below outlines the stages of HRA according to current draft MHCLG guidance. The stages are essentially iterative, being revisited as necessary in response to more detailed information, recommendations and any relevant changes to the plan until no significant adverse effects remain.

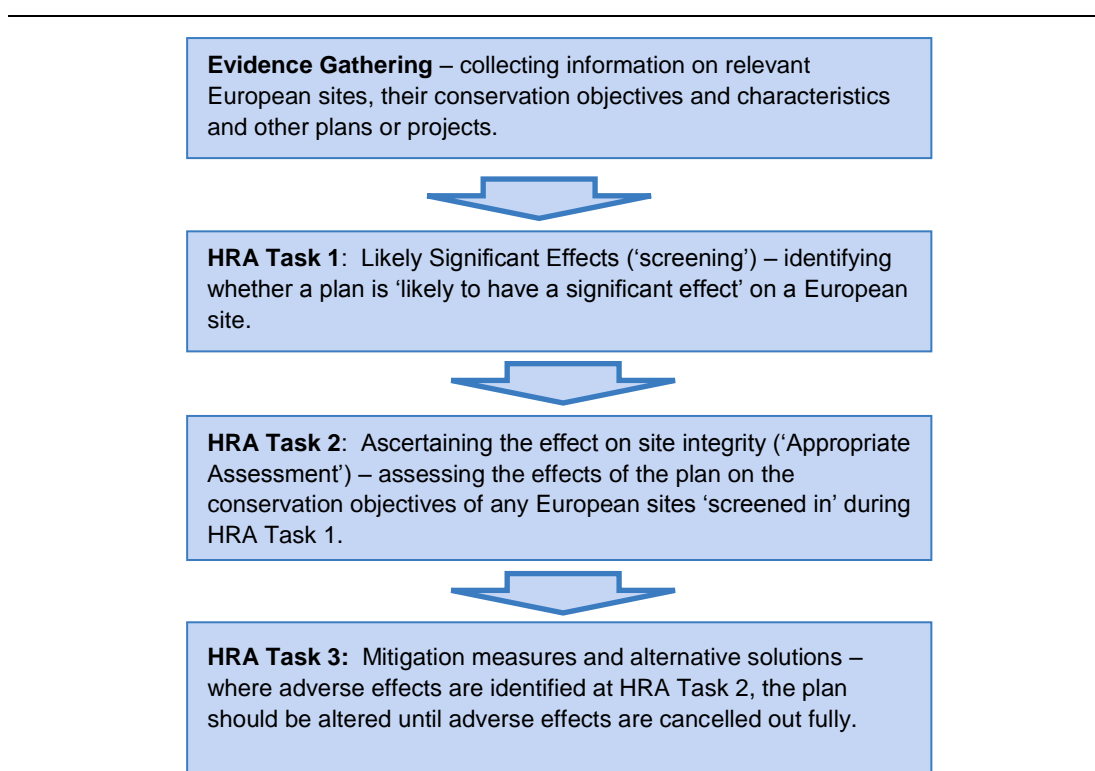


Figure 1 Four stage approach to Habitat Regulations Assessment (Source: CLG, 2006).

⁵ European Commission. (2001) Assessment of plans and projects significantly affecting Natura 2000 Sites: Methodological Guidance on the Provisions of Article 6(3) and 6(4) of the Habitats Directive.

⁶ CLG. (2006) Planning for the Protection of European Sites, Consultation Paper.

⁷ http://www.ukmpas.org/pdf/practical_guidance/HRGN1.pdf

⁸ Dodd, A.M., Cleary, B.E., Dawkins, J.S., Byron, H.J., Palframan, L.J. & Williams, G.M. (2007)

The Appropriate Assessment of Spatial Plans in England: a guide to why, when and how to do it. The RSPB, Sandy.

2.2 HRA Task 1 - Likely Significant Effects (LSE)

Following evidence gathering, the first stage of any HRA is a Likely Significant Effects (LSE) test. This is essentially a risk assessment to decide whether the full subsequent stage, AA, is required. The essential question is:

"Is the Plan, either alone or in combination with other relevant projects and plans, likely to result in a significant effect upon European sites?"

The objective is to 'screen out' those plans and projects that can, without any detailed appraisal, be said to be unlikely to result in significant adverse effects upon European sites, usually because there is no mechanism for an adverse interaction with European sites.

In evaluating significance, AECOM has relied on our professional judgement as well as the results of previous stakeholder consultation regarding development impacts on the European sites listed in Section 1.3.

The level of detail in land use plans concerning developments that will be permitted under the plans will never be sufficient to make a detailed quantification of adverse effects. Therefore, we have again taken a precautionary approach (in the absence of more precise data) assuming as the default position that if an adverse effect cannot be confidently ruled out, avoidance or mitigation measures must be provided. This is in line with MHCLG guidance that the level of detail of the assessment, whilst meeting the relevant requirements of the Habitats Regulations, should be 'appropriate' to the level of plan or project that it addresses (see Appendix D for a summary of this 'tiering' of assessment).

2.3 HRA Tasks 2 and 3 – Appropriate Assessment (AA) and Mitigation

Where it is determined that a conclusion of 'no likely significant effect' cannot be drawn, the analysis has proceeded to the next stage of HRA known as Appropriate Assessment. Case law has clarified that 'appropriate assessment' is not a technical term. In other words, there are no particular technical analyses, or level of technical analysis, that are classified by law as belonging to Appropriate Assessment rather than determination of likely significant effects.

In the light of the Sweetman judgment, one of the key considerations during this Appropriate Assessment is whether there is available mitigation that would entirely address the potential effect, given the existence in particular of several agreed mitigation strategies for European sites around Chichester including recreation mitigation strategies for Pagham Harbour and the Solent European Sites.

2.4 Other Plans and Projects That May Act In Combination

The Conservation of Habitats and Species Regulations 2017 require that plans are not considered purely in isolation but 'in combination' with other projects and plans. That analysis has already been undertaken as part of the strategic HRA undertaken for the Local Plan. The Site Allocation Development Plan does not seek to deviate from the numbers assessed at that earlier stage.

3 Pathways of Impact

3.1 Introduction

In carrying out an HRA it is important to determine the various ways in which land use plans can impact on European sites by following the impact pathways through which development can be connected with European sites, in some cases many kilometres distant. Briefly defined, pathways are routes by which a change in activity associated with a development can lead to an effect upon a European site.

3.1.1 Other Relevant Supporting Spatial Studies

In determining pathway-receptor potential for impacts of the Chichester Local Plan: Key Policies 2014-2029 Development Plan Document on European sites, the following data sources have been examined:

- Chichester District Council – Local Housing Requirements Study (2010);
- Chichester District Council: Strategic Growth Study – Wastewater Treatment Options (2010);
- Solent Waders and Brent Goose Strategy: Interim Guidance on Off-setting and Mitigation Requirements (2018);
- Bird Aware Solent - Solent Recreation Mitigation Strategy (2017);
- Solent Disturbance and Mitigation Project (Final Report, 2013);
- Greenaway, F. (2005) Advice for the management of flightlines and foraging habitats of the barbastelle bat *Barbastellus barbastellus*. English Nature Research Report, Number 657;
- Greenaway, F. (2008) Barbastelle bats in the Sussex West Weald 1997–2008;
- UE Associates. (2009) Visitor Access Patterns on European Sites Surrounding Whitehill and Bordon, East Hampshire. Unpublished report for East Hampshire District Council;
- Surveys undertaken by Footprint Ecology on behalf of the Solent Forum relating to the Solent Disturbance and Mitigation Project;
- Arun District Council – visitor surveys for Pagham Harbour SPA;
- Cruickshanks, K. & Liley, D. (2012) Pagham Harbour Visitor Surveys. Unpublished report by Footprint Ecology. Commissioned by Chichester District Council.
- The UK Air Pollution Information System (www.apis.ac.uk) and Sussex Air Pollution dataset; and
- www.magic.gov.uk and its links to SSSI citations and the JNCC website (www.natureonthemap.org.uk).

3.2 Disturbance and Recreational Pressure

Recreational use of a European site has the potential to:

- prevent appropriate management or exacerbate existing management difficulties;
- cause damage through erosion and fragmentation;
- cause eutrophication as a result of dog fouling; and
- cause disturbance to sensitive species, particularly ground-nesting birds and wintering wildfowl.

Different types of European sites are subject to different types of recreational pressures and have different vulnerabilities. Studies across a range of species have shown that the effects from recreation can be complex.

3.2.1 Mechanical/abrasive Damage and Nutrient Enrichment

Most types of terrestrial European site can be affected by trampling, which in turn causes soil compaction and erosion. Walkers with dogs contribute to pressure on sites through nutrient enrichment via dog fouling and also

have potential to cause greater disturbance to fauna as dogs are less likely to keep to marked footpaths and move more erratically. Motorcycle scrambling and off-road vehicle use can cause serious erosion, as well as disturbance to sensitive species.

There have been several papers published that empirically demonstrate that damage to vegetation in woodlands and other habitats can be caused by vehicles, walkers, horses and cyclists:

- Wilson & Seney (1994)⁹ examined the degree of track erosion caused by hikers, motorcycles, horses and cyclists from 108 plots along tracks in the Gallatin National Forest, Montana. Although the results proved difficult to interpret, it was concluded that horses and hikers disturbed more sediment on wet tracks, and therefore caused more erosion, than motorcycles and bicycles.
- Cole *et al.* (1995a, b)¹⁰ conducted experimental off-track trampling in 18 closed forest, dwarf scrub and meadow and grassland communities (each trampled between 0–500 times) over five mountain regions in the US. Vegetation cover was assessed two weeks and one year after trampling, and an inverse relationship with trampling intensity was discovered, although this relationship was weaker after one year than two weeks indicating some recovery of the vegetation. Differences in plant morphological characteristics were found to explain more variation in response between different vegetation types than soil and topographic factors. Low-growing, mat-forming grasses regained their cover best after two weeks and were considered most resistant to trampling, while tall forbs (non-woody vascular plants other than grasses, sedges, rushes and ferns) were considered least resistant. Cover of hemicryptophytes and geophytes (plants with buds below the soil surface) was heavily reduced after two weeks, but had recovered well after one year and as such these were considered most resistant to trampling. Chamaephytes (plants with buds above the soil surface) were least resistant to trampling. It was concluded that these would be the least tolerant of a regular cycle of disturbance.
- Cole (1995c)¹¹ conducted a follow-up study (in four vegetation types) in which shoe type (trainers or walking boots) and trampler weight were varied. Although immediate damage was greater with walking boots, there was no significant difference after one year. Heavier trampers caused a greater reduction in vegetation height than lighter trampers, but there was no difference in effect on cover.
- Cole & Spildie (1998)¹² experimentally compared the effects of off-track trampling by hikers and horses (at two intensities – 25 and 150 passes) in two woodland vegetation types (one with an erect forb understorey and one with a low shrub understorey). Horse traffic was found to cause the largest reduction in vegetation cover. The forb-dominated vegetation suffered greatest disturbance, but recovered rapidly. Higher trampling intensities caused more disturbance.

The total volume of dog faeces deposited on sites can be surprisingly large. For example, at Burnham Beeches National Nature Reserve over one year, Barnard (2003)¹³ estimated the total amounts of urine and faeces from dogs as 30,000 litres and 60 tonnes respectively. Nutrient-poor habitats such as heathland are particularly sensitive to the fertilising effect of inputs of phosphates, nitrogen and potassium from dog faeces¹⁴.

Areas of dune habitat that may be sensitive to trampling and erosion are present within Solent Maritime SAC, and Chichester and Langstone Harbours SPA and Ramsar sites at the entrance to Chichester Harbour. Additionally, visitors from the district may choose to visit European sites outside of the area covered by Chichester's Local Plan that may be sensitive to such impacts. Direct mechanical trampling and nutrient enrichment are both more subtle and reversible effects than disturbance of bird populations.

⁹ Wilson, J.P. & Seney, J.P. (1994) Erosional impact of hikers, horses, motorcycles and off road bicycles on mountain trails in Montana. *Mountain Research and Development* 14: 77-88.

¹⁰ Cole, D.N. (1995a) Experimental trampling of vegetation. I. Relationship between trampling intensity and vegetation response. *Journal of Applied Ecology* 32: 203-214.

Cole, D.N. (1995b) Experimental trampling of vegetation. II. Predictors of resistance and resilience. *Journal of Applied Ecology* 32: 215-224.

¹¹ Cole, D.N. (1995c) Recreational trampling experiments: effects of trampler weight and shoe type. Research Note INT-RN-425. U.S. Forest Service, Intermountain Research Station, Utah.

¹² Cole, D.N. & Spildie, D.R. (1998) Hiker, horse and llama trampling effects on native vegetation in Montana, USA. *Journal of Environmental Management* 53: 61-71.

¹³ Barnard, A. (2003) Getting the Facts - Dog Walking and Visitor Number Surveys at Burnham Beeches and their Implications for the Management Process. *Countryside Recreation* 11: 16-19.

¹⁴ Shaw, P.J.A., Lankey, K. & Hollingham, S.A. (1995) Impacts of trampling and dog fouling on vegetation and soil conditions on Headley Heath. *The London Naturalist* 74: 77-82.

3.2.2 Disturbance

Concern regarding the effects of disturbance on birds stems from the fact that they are expending energy unnecessarily and the time they spend responding to disturbance is time that is not spent feeding¹⁵. Disturbance therefore risks increasing energetic output while reducing energetic input, which can adversely affect the 'condition' and ultimately survival of the birds. In addition, displacement of birds from one feeding site to others can increase the pressure on the resources available within the remaining sites as they have to sustain a greater number of birds¹⁶.

A number of studies have shown that birds are affected more by dogs and people with dogs than by people alone, with birds flushed more readily, more frequently, at greater distances and for longer¹⁷. In addition, dogs, rather than people, tend to be the cause of many management difficulties, notably by worrying grazing animals, and can cause eutrophication near paths.

However, the outcomes of many of these studies should be treated with care. For instance, the effect of disturbance is not necessarily correlated with the impact of disturbance, i.e. the most easily disturbed species are not necessarily those that will suffer the greatest impacts. It has been shown that, in some cases, the most easily disturbed birds simply move to other feeding sites, whilst others may remain (possibly due to an absence of alternative sites) and thus suffer greater impacts on their population¹⁸. A literature review undertaken for the RSPB¹⁹ also urges caution when extrapolating the results of one disturbance study because responses differ between species and the response of one species may differ according to local environmental conditions. These factors have to be taken into account when attempting to predict the impacts of future recreational pressure on European sites.

Disturbing activities are on a continuum. The most disturbing activities are likely to be those that involve irregular, infrequent, unpredictable loud noise events, movement or vibration of long duration. Birds are least likely to be disturbed by activities that involve regular, frequent, predictable, quiet patterns of sound or movement or minimal vibration. The further any activity is from the birds the less likely it is to result in disturbance.

The factors that influence a species' response to a disturbance are numerous, but the three key factors are species sensitivity, proximity of disturbance sources and timing/duration of the potentially disturbing activity.

It should be emphasised that recreational use is not inevitably a problem. Many European sites are also nature reserves managed for conservation and public appreciation of nature. At such sites, access is encouraged and resources are available to ensure that recreational use is managed appropriately.

Where increased recreational use is predicted to cause adverse impacts on a site, avoidance and mitigation should be considered. Avoidance of recreational impacts at European sites involves location of new development away from such sites; Local Development Frameworks (and other strategic plans) provide the mechanism for this. Where avoidance is not possible, mitigation will usually involve a mix of access management, habitat management and provision of alternative recreational space:

- *Access management* – restricting access to some or all of a European site - is not usually within the remit of the District Council and restriction of access may contravene a range of Government policies on access to open space, and Government objectives for increasing exercise, improving health etc. However, active management of access may be possible, such as that practised on nature reserves;
- *Habitat management* is not within the direct remit of the Council. However the Council can help to set a framework for improved habitat management by promoting cross-authority collaboration and S106 funding of habitat management. In the case of Chichester, opportunities for this are limited since, according to Natural England, the areas of European designated habitat in the District are already in favourable condition or recovering;

¹⁵ Riddington, R., Hassall, M., Lane, S. J., Turner, P. A., & Walters, R. (1996) The impact of disturbance on the behaviour and energy budgets of Brent Geese *Branta b. bernicla*. *Bird study* 43(3): 269-279.

¹⁶ Gill, J.A., Sutherland, W.J. & Norris, K. (1998) The consequences of human disturbance for estuarine birds. *RSPB Conservation Review* 12: 67-72.

¹⁷ Underhill-Day, J.C. (2005) A literature review of urban effects on lowland heaths and their wildlife. *English Nature Research reports*, No 623. Peterborough: English Nature (now Natural England).

¹⁸ Gill, J. A., Norris, K., & Sutherland, W. J. (2001) Why behavioural responses may not reflect the population consequences of human disturbance. *Biological Conservation* 97(2): 265-268.

¹⁹ Woodfield, E. & Langston, R. (2004) Literature review on the impact on bird population of disturbance due to human access on foot. *RSPB research report* No. 9.

- *Provision of alternative recreational space* can help to attract recreational users away from sensitive European sites and reduce pressure on the sites. For example, some species for which European sites have been designated are particularly sensitive to dogs, and many dog walkers may be happy to be diverted to less sensitive sites. However, the location and type of alternative space must be attractive to users for this to be effective.

Chichester and Langstone Harbours SPA/Ramsar site and Pagham Harbour SPA/Ramsar site lie within the Chichester Local Plan area. There are also several SPA and Ramsar site designations beyond the area covered by the Chichester Local Plan that residents may choose to visit, such as Wealden Heaths Phase 2 SPA. All are ecologically sensitive to disturbance of the species for which they are designated.

The Solent Forum undertook a project to examine bird disturbance and possible mitigation in the Solent area. A Phase I report has outlined the existing visitor data for the Solent, canvassed expert opinion on recreational impacts on birds and assessed current available data on relevant species. Phase II of the Solent Disturbance and Mitigation Project²⁰ identified that survival rates for curlew and a variety of other bird species were predicted to decrease under any increase in visitor rates.

The 2017 Solent Recreation Mitigation Strategy²¹ aims to address this issue by implementing measures including a coastal ranger team, increased education, responsible dog walking initiatives, codes of conduct for coastal activities, site-specific visitor management and habitat protection projects and the provision of alternative greenspaces. These measures are to be coordinated by a partnership manager, and their delivery will be funded by financial contributions from developments within 5.6km of the Solent European sites. This contribution is currently equivalent to an average of £564 per dwelling, but is subject to annual change.

Medmerry Managed Realignment scheme (mitigation for habitat loss associated with the Solent European sites) is located in close proximity to Pagham Harbour SPA/Ramsar site. Once habitats have become fully established, it is expected that the site will support features for which the site can be designated and incorporated into Pagham Harbour SPA/Ramsar site. As such, the entire Pagham Harbour site, including the Medmerry extension, will be subject to the same strategic level mitigation afforded to the other Solent European sites (even though it is located in close proximity to Pagham Harbour SPA/Ramsar site). Any residential development within 5.6km of the SPA/Ramsar site will be required to make financial contributions per dwelling towards the Solent Recreation Mitigation Strategy and/or provide measures associated with development designed to avoid or mitigate any adverse effects.

Chichester District Council commissioned Footprint Ecology to undertake a visitor survey of those parts of the Pagham Harbour SPA/Ramsar site that fell within the Local Plan area²². According to Table 14 on page 26 of that report, approximately 53% of winter visitors and 76% of summer visitors to the western (Chichester District) parts of Pagham Harbour come from within the District (Selsey, Chichester City, Sidlesham, Lodsworth, Bosham, Mundham, Hunston, Emsworth/Southbourne and Midhurst). Three settlements (Selsey, Chichester and Sidlesham) make by far the greatest contribution to visitors to Pagham Harbour, accounting for 48% of all winter visitors and 66% of all summer visitors. Of these three settlements, Selsey is responsible for the majority of visitors. Moreover, approximately 96% of visitors with dogs (who are likely to have the greatest potential disturbance effect on SPA birds) live south of Chichester, emphasising the local catchment of the site. Policy 51 (Development and Disturbance of Birds in Pagham Harbour Special Protection Area) of the Chichester Local Plan identifies the core recreational catchment on the Chichester side of the harbour as 3.5km and states that net increases in residential development within that zone will be required to provide mitigation for the SPA/Ramsar site.

3.3 Atmospheric Pollution

The main pollutants of concern for European sites are oxides of nitrogen (NO_x), ammonia (NH₃) and sulphur dioxide (SO₂). NO_x can have a directly toxic effect upon vegetation. In addition, greater NO_x or ammonia concentrations within the atmosphere will lead to greater rates of nitrogen deposition in soils. An increase in the deposition of nitrogen from the atmosphere to soils is generally regarded to lead to an increase in soil fertility, which can have a serious deleterious effect on the quality of semi-natural, nitrogen-limited terrestrial habitats.

²⁰ Stillman, R. A., West, A. D., Clarke, R. T. & Liley, D. (2012) Solent Disturbance and Mitigation Project Phase II: Predicting the impact of human disturbance on overwintering birds in the Solent. Report to the Solent Forum.

²¹ Bird Aware Solent. (2017) Solent Recreation Mitigation Strategy. December 2017.

²² Cruickshanks, K. & Liley, D. (2012) Pagham Harbour Visitor Surveys. Unpublished report by Footprint Ecology. Commissioned by Chichester District Council.

According to the Department of Transport's Transport Analysis Guidance, "beyond 200m, the contribution of vehicle emissions from the roadside to local pollution levels is not significant"²³ (Figure 2).

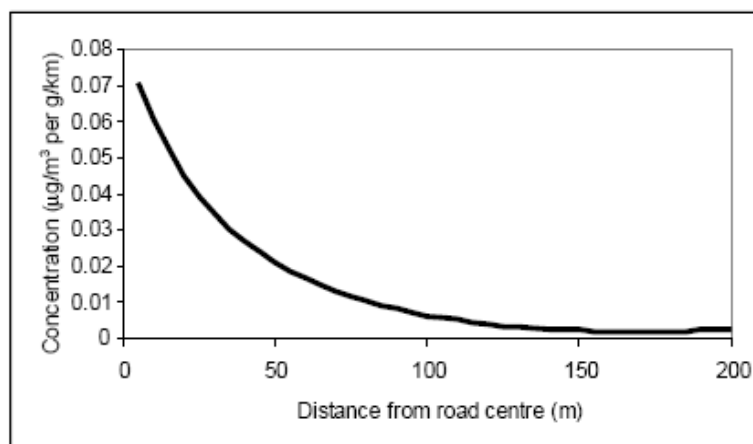


Figure 2 Traffic contribution to concentrations of pollutants at different distances from a road (Source: DfT).

This issue of air quality impacts from road traffic across Chichester District was investigated as part of the Local Plan HRA. It was considered that the scale of traffic increases due to the Local Plan fell below the threshold for significance on all roads that lay within 200m of sensitive European sites. Since it is primarily a district-wide matter for consideration the issue is not re-investigated in detail in this Document. Natural England has confirmed in discussion of the 2016 Proposed Submission Development Plan Document that, provided the quantum and distribution of development has not changed significantly since the Local Plan, this is an acceptable approach.

3.4 Water Abstraction

The South East has been identified as generally being an area of high water stress. The issue of water resource demands associated with an increase in the Chichester District population was investigated in full for the Local Plan HRA. It was concluded that no likely significant effect on European sites would arise. Since it is a strategic district-wide matter, rather than a site specific issue, it is not necessary to reinvestigate it as part of the Site Allocation Development Plan.

3.5 Water Quality

The quality of the water that feeds European sites is an important determinant of the nature of their habitats and the species they support. Poor water quality can have a range of environmental impacts. Sewage and industrial effluent discharges can contribute to increased nutrient levels within European sites, leading to unfavourable conditions. In addition, diffuse pollution, partly from urban run-off, has been identified during an Environment Agency Review of Consents process as being a major factor in causing unfavourable condition of European sites.

For sewage treatment works close to capacity, further development may increase the risk of effluent escape into aquatic environments. In many urban areas, sewage treatment and surface water drainage systems are combined, and therefore a predicted increase in flood and storm events could increase pollution risk. It was determined in the Local Plan HRA that Chichester (Apuldram) WwTW was effectively constrained from accommodating further development. The solution identified was to upgrade Tangmere WwTW to provide expanded capacity to accommodate an additional 3,000 homes; this would enable strategic growth in the south of the Local Plan area. It was identified in Paragraph 4.12 of the Local Plan that "For this reason, the proposed strategic allocations in the Chichester/Tangmere area are not expected to be deliverable until after 2019. To compensate for this, the Plan strategy seeks the early release of housing land in areas where wastewater capacity is available, in particular at the settlement hubs of Southbourne, Selsey and East Wittering/Bracklesham". Since wastewater treatment is a strategic issue and a solution has been identified, it is not necessary to investigate it as part of the Site Allocation HRA. However, other potential water quality pathways

²³ <http://www.dft.gov.uk/webtag/documents/expert/unit3.3.3.php#013>; accessed 13/04/12.

(such as surface water runoff) are considered. Studies by the Environment Agency under the Review of Consents process indicated that sewage discharges have not had a significant adverse effect on the integrity of the Pagham Harbour SPA/Ramsar site and that Wastewater Treatment Works have capacity to accommodate new homes without a significant adverse effect on water quality. This therefore does not need to be considered further.

3.6 Coastal Squeeze

Rising sea levels can be expected to cause intertidal habitats (principally saltmarsh and mudflat) to migrate landwards. However, in built-up areas, such landward retreat is often rendered impossible due the presence of sea walls and other flood defences.

In addition, as development frequently takes place immediately behind the sea wall, flood defences often cannot be moved landwards to accommodate managed retreat of threatened habitats. The net result of this is that the quantity of saltmarsh and mudflat adjacent to built-up areas will progressively decrease as sea levels rise. This process is known as 'coastal squeeze'. In areas where sediment availability is reduced, the 'squeeze' also includes an increasingly steep beach profile and foreshortening of the seaward zones.

The North Solent Shoreline Management Plan units for Chichester and Langstone Harbours indicate that there will be a combination of 'Hold the Line', 'Managed Realignment' and 'Adaptive Management' strategies. An HRA of the draft plan²⁴ indicated that Hold the Line will have no effect on habitats behind the defences, whilst Managed Realignment is likely to "have a significant detrimental effect resulting in loss of designated terrestrial habitats including coastal grazing marsh, saline lagoons and grasslands." Managed Realignment is proposed in the short term for part of Chichester Harbour. Although Hold the Line is the preferred approach for the majority of the shoreline, the SMP notes that further studies on Chichester and Langstone Harbours may lead to revision of this for significant lengths of shoreline in the inner harbours.

The South Downs SMP for areas fronting Pagham Harbour identifies a mix of Hold the Line and Managed Realignment strategies. The SMP states that a Managed Realignment strategy is being adopted to maintain the integrity of the harbour with its nature conservation value as a primary consideration.

It was concluded in the HRA of the Local Plan that it would not require the SMP (or resulting Coastal Strategy) policies for the frontage to be altered and would not be situated in such a position as to require new defences in currently undefended parts of the coastline or locate development in areas planned for Managed Realignment in the SMP or the Environment Agency Regional Habitat Creation Programme. As such, this pathway does not require further investigation in the Site Allocation Development Plan.

3.7 Loss of Habitats Outside of European Sites

European sites are designated on the basis of key habitats and species. The latter are often mobile beyond the designated site boundary and it is possible that development in the wider area may have an impact on the species populations for which the European sites are designated.

Ebernoe Common SAC and The Mens SAC are both designated for populations of barbastelle (*Barbastella barbastellus*). The barbastelles forage widely outside of these SACs, and studies carried out over the past fifteen years give detailed information on flightlines^{25 26}:

These reports have identified that:

- The barbastelles of The Mens SAC forage to the east of the SAC, principally on the floodplain of the River Arun from near Horsham in the north to Parham in the south. They also cross to the Adur floodplain. In some cases the bats travelled up to 7km to visit foraging areas;
- The barbastelles at Ebernoe Common SAC had flightlines that followed watercourses, particularly the River Kird, and woodland cover for distances of typically 5km. Flightlines outside the SAC are particularly to the south (the Petworth and Tillington area) but also to the west, north and east; and

²⁴ [http://www.northsolentsmp.co.uk/media/adobe/o/2/Appendix_J_-_Appropriate_Assessment_\(draft\).pdf](http://www.northsolentsmp.co.uk/media/adobe/o/2/Appendix_J_-_Appropriate_Assessment_(draft).pdf).

²⁵ Greenaway, F. (2005) Advice for the management of flightlines and foraging habitats of the barbastelle bat *Barbastella barbastellus*. *English Nature Research Report* Number 657.

²⁶ Greenaway, F. (2008) Barbastelle bats in the Sussex West Weald 1997 – 2008.

- Ebernoe Common SAC is also designated for a population of Bechstein's bat (*Myotis bechsteinii*). Radio-tracking projects that have been implemented for this species have established that tracked individuals generally remained within approximately 1.5km of their roosts²⁷. These distances are concordant with those identified from radio-tracking of Bechstein's bats at Ebernoe Common SAC from 2001, which identified that the maximum distance travelled by a tagged Bechstein's bat to its foraging area was 1,407m, with an average of 735.7m²⁸.

These SACs require inclusion in the screening stage of this HRA since severance of bat flightlines could theoretically occur through new development, which could have an adverse effect on the SAC designation. Recent Natural England advice to South Downs National Park Authority related to the HRA of their Local Plan proposed the following zone-based approach when assessing potential impact pathways for these SACs:

- A 'key conservation area' – for any development proposed within 6.5km of the SAC, all impacts will be considered; and
- A 'wider conservation area' – for any development proposed 6.5 - 12km from the SAC, significant impacts or severance of flightlines will be considered. This area encompasses the full extent from the SAC in which bats may forage.

Chichester and Langstone Harbours SPA and Ramsar site and Pagham Harbour SPA and Ramsar site are notified partly for their over-wintering populations of brent goose (*Branta bernicla bernicla*). However, studies have identified that many feeding sites for this species around the Solent fall outside of the statutory nature conservation site boundaries. The majority of brent goose feeding sites are amenity/recreation grasslands with little intrinsic nature conservation interest, and therefore are vulnerable to loss or damage from development. This also applies to some high tide wader roosts in the Solent. This issue is addressed by the Solent Recreation Mitigation Strategy²⁹, and specific mitigation guidance is provided in the Solent Waders and Brent Goose Strategy: Interim Guidance on Mitigation and Off-setting Requirements³⁰.

3.8 Summary

In summary, the focus of this Document is on the following pathways of impact:

- Recreational pressure – specifically in terms of whether proposed housing sites are located within 5.6km of the Chichester and Langstone Harbours SPA/Ramsar site or the Medmerry realignment or 3.5km of Pagham Harbour SPA/Ramsar site.
- Other forms of disturbance such as noise or lighting;
- Water quality – in terms of whether individual sites present impact pathways (such as surface water runoff) to European sites;
- Loss of, or prevention of access to, supporting habitat for Ebernoe Common SAC, The Mens SAC, Chichester and Langstone Harbours SPA/Ramsar site or Pagham Harbour SPA/Ramsar site.

²⁷ Cited in: Schofield H & Morris C. (2000) Ranging Behaviour and Habitat Preferences of Female Bechstein's Bats in Summer. Vincent Wildlife Trust.

²⁸ Fitzsimmons, P., Hill, D. & Greenaway, F. (2002) Patterns of habitat use by female Bechstein's bats (*Myotis bechsteinii*) from a maternity colony in a British woodland.

²⁹ Bird Aware Solent. (2017) Solent Recreation Mitigation Strategy. December 2017.

³⁰ Solent Waders and Brent Goose Strategy Steering Group. (2018) Solent Waders and Brent Goose Strategy: Interim Guidance on Mitigation and Off-setting Requirements. March 2018.

4 Chichester and Langstone Harbours SPA and Ramsar Site/Solent Maritime SAC/Solent and Dorset Coast SPA³¹

4.1 Introduction

Chichester and Langstone Harbours SPA and Ramsar site encompasses two large sheltered estuarine basins: Langstone and Chichester Harbours on the Hampshire/Sussex border. The two harbours are separated by Hayling Island and meet at Langstone Bridge. The SPA is comprised of two Sites of Special Scientific Interest (SSSI): Chichester Harbour SSSI and Langstone Harbour SSSI.

Chichester Harbour and Langstone Harbour, along with the coastal waters between the two harbours, form part of the Solent Maritime SAC, along with Portsmouth Harbour SPA/Ramsar site and Solent & Southampton Water SPA/Ramsar site.

Chichester Harbour SSSI is a large estuarine basin within which extensive mud and sandflats are exposed at low tide. The site is of particular significance for wintering wildfowl and waders and also for breeding birds both within the Harbour and in the surrounding pastures and woodlands. There is also a wide range of habitats which have important plant communities.

Chichester Harbour and the adjoining Portsmouth and Langstone Harbours together form a single system which is among the ten most important intertidal areas for waders in Britain.

4.2 Features of European Interest³²

4.2.1 Chichester and Langstone Harbours SPA

Chichester and Langstone Harbours SPA qualifies under Article 4.1 of the Birds Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive:

During the breeding season:

- Common Tern *Sterna hirundo*: 0.3% of the breeding population in Great Britain (5-year mean, 1992-1996);
- Sandwich Tern *Sterna sandvicensis*: 0.2% of the breeding population in Great Britain (5-year mean, 1993-1997); and
- Little Tern *Sternula albifrons*: 4.2% of the breeding population in Great Britain (5-year mean, 1992-1996).

Over winter:

- Bar-tailed Godwit *Limosa lapponica*: 3.2% of the wintering population in Great Britain (5-year peak mean 1991/92-1995/96).

This site also qualifies under Article 4.2 of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species:

Over winter:

- Pintail *Anas acuta*: 1.2% of the population in Great Britain (5-year peak mean 1991/92-1995/96);

³¹ Note that this includes the Medmerry realignment, which although close to Pagham Harbour SPA/Ramsar site was created to compensate for coastal squeeze losses on the Solent & Southampton Water and Chichester & Langstone Harbours. In practice there is considerable overlap between the 5.6km zone from Medmerry, the 5.6km zone from Chichester Harbour and the 3.5km zone from Pagham Harbour.

³² Features of European Interest are the features for which a European site is selected. They include habitats listed on Annex 1 of the Habitats Directive, species listed on Annex II of the EC Habitats Directive and populations of bird species for which a site is designated under the EC Birds Directive.

- Shoveler *Anas clypeata*: 1% of the population in Great Britain (5-year peak mean 1991/92-1995/96);
- Teal *Anas crecca*: 0.5% of the population (5-year peak mean 1991/92-1995/96);
- Wigeon *Anas penelope*: 0.7% of the population in Great Britain (5-year peak mean 1991/92-1995/96);
- Turnstone *Arenaria interpres*: 0.7% of the population in Great Britain (5-year peak mean 1991/92-1995/96);
- Dark-bellied Brent Goose *Branta bernicla bernicla*: 5.7% of the population (5-year peak mean 1991/92-1995/96);
- Sanderling *Calidris alba*: 0.2% of the population (5-year peak mean 1991/92-1995/96);
- Dunlin *Calidris alpina alpina*: 3.2% of the population (5-year peak mean 1991/92-1995/96);
- Ringed Plover *Charadrius hiaticula*: 3% of the population in Great Britain (5-year peak mean 1991/92-1995/96);
- Red-breasted Merganser *Mergus serrator*: 3% of the population in Great Britain (5-year peak mean 1991/92-1995/96);
- Curlew *Numenius arquata*: 1.6% of the population in Great Britain (5-year peak mean 1991/92-1995/96);
- Grey Plover *Pluvialis squatarola*: 2.3% of the population (5-year peak mean 1991/92-1995/96);
- Shelduck *Tadorna tadorna*: 3.3% of the population in Great Britain (5-year peak mean 1991/92-1995/96);
and
- Redshank *Tringa totanus*: 1% of the population (5-year peak mean 1991/92-1995/96).

The area also qualifies under Article 4.2 of the Directive (79/409/EEC) by supporting an internationally important assemblage of birds. Over winter, the area regularly supports 93,230 individual waterfowl (5-year peak mean 01/04/1998) including: Wigeon, Bar-tailed Godwit, Dark-bellied Brent Goose, Ringed Plover, Grey Plover, Dunlin, Redshank, Shelduck, Curlew, Teal, Pintail, Shoveler, Red-breasted Merganser, Sanderling and Turnstone.

4.2.2 Chichester and Langstone Harbours Ramsar Site

Chichester and Langstone Harbours Ramsar site qualifies under the following Ramsar criteria.

Table 4-1 Chichester and Langstone Harbours Ramsar site criteria.

Ramsar criterion	Description of criterion	Chichester and Langstone Harbours
1	A wetland should be considered internationally important if it contains a representative, rare, or unique example of a natural or near-natural wetland type found within the appropriate biogeographic region.	Two large estuarine basins linked by the channel which divides Hayling Islands from the main Hampshire coastline. The site includes intertidal mudflats, saltmarsh, sand and shingle spits and sand dunes.
5	A wetland should be considered internationally important if it regularly supports assemblages of waterbirds of international importance.	76,480 waterfowl (5-year peak mean 1998/99–2002/03).
6	A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird.	<p>Species with peak counts in spring/autumn:</p> <p>Ringed plover <i>Charadrius hiaticula</i>: 853 individuals, representing an average of 1.1% of the population (5-year peak mean 1998/99–2002/03).</p> <p>Black-tailed godwit <i>Limosa limosa islandica</i>: 906 individuals, representing an average of 2.5% of the population (5-year peak mean 1998/99–2002/03).</p> <p>Common redshank <i>Tringa totanus totanus</i>: 2577 individuals, representing an average of 1% of the population (5-year peak mean 1998/99–2002/03).</p> <p>Species with peak counts in winter:</p> <p>Dark-bellied brent goose <i>Branta bernicla bernicla</i>:</p>

Ramsar criterion	Description of criterion	Chichester and Langstone Harbours
		<p>12,987 individuals, representing an average of 6% of the populations (5-year peak mean 1998/99–2002/03).</p> <p>Common shelduck <i>Tadorna tadorna</i>: 1,468 individuals, representing an average of 1.8% of the GB population (5-year peak mean 1998/99–2002/03).</p> <p>Grey plover <i>Pluvialis squatarola</i>: 3,043 individuals, representing an average of 1.2% of the population (5-year peak mean 1998/99–2002/03).</p> <p>Dunlin <i>Calidris alpina alpina</i>: 33,436 individuals, representing an average of 2.5% of the population (5-year peak mean 1998/99–2002/03).</p> <p>Species regularly supported during the breeding season:</p> <p>Little tern <i>Sternula albifrons albifrons</i>: 130 apparently occupied nests, representing an average of 1.1% of the breeding populations (Seabird 2000 census)³³</p>

4.2.3 Solent Maritime SAC

Solent Maritime SAC qualifies as a SAC for both habitats and species. Firstly, the site contains the following Habitats Directive Annex I habitats:

- Estuaries;
- Cord-grass (*Spartina*) swards (*Spartinion maritimae*);
- Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*);
- Subtidal sandbanks (sandbanks which are slightly covered by seawater all the time);
- Intertidal mudflats and sandflats (mudflats and sandflats not covered by seawater at low tide);
- Lagoons (coastal lagoons);
- Annual vegetation of drift lines;
- Coastal shingle vegetation (perennial vegetation of stony banks);
- Glasswort (*Salicornia*) and other annuals colonising mud and sand; and
- Shifting dunes with marram (shifting dunes along the shoreline with *Ammophila arenaria* 'white dunes').

Secondly, the site also qualifies for the following Habitats Directive Annex II species:

- Desmoulin's whorl snail (*Vertigo moulinsiana*).

4.2.4 Solent and Dorset Coast SPA

Chichester and Langstone Harbours SPA and Ramsar site and Solent Maritime SAC overlap with the Solent and Dorset Coast SPA; unlike the other SPA designations the Solent and Dorset Coast SPA extends much further out into coastal waters. This SPA is proposed to protect the open water feeding grounds for internationally important populations of common, sandwich and little terns. Since nothing in the Site Allocations Document would affect the ability of the open waters in the Solent and Dorset Coast to continue to provide adequate fish resources for

³³ Species identified subsequent to designation for future possible consideration.

foraging terns, the site allocations are extremely unlikely to affect the potential Solent and Dorset Coast SPA. This particular SPA is therefore not discussed further.

4.3 Historic Trends and Current Conditions

Langstone Harbour is fringed by urban and industrial development, whereas Chichester Harbour is surrounded mainly by high grade farmland. The site is subjected to significant recreational pressures, especially during summer months.

Both harbours are managed by statutory bodies whose remits include conservation of the natural environment. Conservation bodies have an advisory input to the management of the harbours, and play an active role in the management of numerous Local Authority and RSPB nature reserves around the site. In 2000, a collaborative Solent European Marine Sites project was set up with the aim of developing a strategy for managing the marine and coastal resources of the Solent in a more integrated and sustainable way.

The Environment Agency Review of Consents and the HRA of the South East RSS both identified that development within the Chichester area may be constrained by restrictions that will be/have been placed on some Wastewater Treatment Works (WwTW) in order to ensure suitable water quality in the receiving marine/coastal waters of the two harbours. Memoranda of understanding currently exist between both the Environment Agency (EA) and Southern Water Services and Chichester Council which clearly set out which WwTWs are constrained, the quantum of new housing that can be accommodated and the available strategies for delivering housing while avoiding adverse effects on the European sites.

Natural England condition assessment of Chichester Harbour SSSI indicated that 22% of the site was in favourable condition, with the remaining 78% recovering from an unfavourable status. In the case of Langstone Harbour SSSI these figures were 9% and 91% respectively.

4.4 Key Environmental Conditions

The key environmental conditions that support the features of European interest have been defined as:

- Sufficient space between the site and development to allow for managed retreat of intertidal habitats (to avoid coastal squeeze);
- Avoidance of dredging or land-claim of coastal habitats;
- Maintenance of freshwater inputs;
- Balance of saline and non-saline conditions;
- Unpolluted water;
- Absence of nutrient enrichment;
- Absence of non-native species;
- Maintenance of adjacent grassland (key foraging resource); and
- Absence of disturbance.

4.5 Potential Effects of the Plan

4.5.1 Test of Likely Significant Effects

The LSE Test undertaken in Appendix E examined potential impact pathways for the housing and employment site allocations. It was necessary to consider the following potential impact pathways:

- Increased recreational pressure;
- Loss of off-site feeding and roosting habitats for bird species (specifically brent goose and wader species);
- Alteration of water quality; and
- Direct disturbance from construction.

Coastal squeeze and air quality have previously been discussed at a strategic level and no likely significant effects are anticipated. These will therefore not be considered further within this Section.

Of the potential impact pathways that were considered, the LSE test found that increased recreational pressure and loss of off-site feeding and roosting habitats for bird species may affect Chichester and Langstone Harbours SPA/Ramsar site as a result of the following housing site allocations:

- Highgrove Farm (50 dwellings), (BO1);
- Adjacent Tesco Petrol Station, Fishbourne Road (134 student flats), (CC1);
- Bartholomew's, Bognor Road (57 dwellings), (CC2);
- 117 The Hornet (35 dwellings), (CC3);
- Shopwyke Strategic Development Location, Oving (85 dwellings), (CC4); and
- Land south of Reedbridge Farm (7 dwellings), (HN1).

It was therefore necessary to consider these at the AA stage. The LSE test found that the employment site allocations will not result in impact pathways that are likely to affect Chichester SPA/Ramsar site, and as such these site allocations were not subject to AA.

4.5.2 Appropriate Assessment

Following the LSE test, AA was undertaken of six housing site allocations which have the potential to result in impact pathways affecting Chichester SPA/Ramsar site. Three of these allocations, specifically policies CC2-4, have similar implications for Chichester SPA/Ramsar site and are therefore discussed together.

Table 4-2 Appropriate Assessment of site allocations for Chichester and Langstone Harbours SPA and Ramsar site and Solent Maritime SAC.

Site name	Site code	Impact pathway	Appropriate Assessment of impact pathway
A housing site allocation consisting of 50 dwellings is provisioned for Land at Highgrove Farm. Certain impact pathways, specifically recreational pressure and loss of off-site feeding and roosting habitat for bird species, could not be screened out at the LSE test stage.			
Land at Highgrove Farm (Policy BO1)	BB08195	Recreational pressure	This site lies well within the 5.6km 'zone of influence' of the SPA and Ramsar site and is therefore likely to result in an increase in recreational pressure upon the European designated sites. In order to mitigate for this additional recreational pressure, developer contributions per new dwelling to the Solent Disturbance and Mitigation Project through the S106 agreements and/or CIL will be necessary.
		Loss of off-site feeding and roosting habitat for bird species	Due to its proximity (c. 1km) and size (>10ha), this proposed development site has potential to act as supporting habitat beyond the boundaries of the designated site for foraging or roosting over-wintering populations of brent goose and wader species associated with the Solent European designated sites. The majority of the foraging and roosting sites are amenity/recreation grassland or arable sites. The loss of these habitats could result in the loss of potential foraging and roosting sites for these species. The development site consists of arable fields. It is recommended that a Phase 1 habitat survey is conducted to determine the suitability of the habitat within the site to support brent goose and wader species. If the habitat is considered to be suitable, wintering bird surveys will need to be conducted to determine the use of the site by bird species. If it is determined that the site is significant as a roosting/feeding site for wintering waders or brent goose then mitigation will be required to ensure no net loss of such habitat.

A housing site allocation consisting of 134 student flats is provisioned for Land Adjacent Tesco Petrol Station, Fishbourne. An impact pathway, recreational pressure, could not be screened out at the LSE test stage.			
Land Adjacent Tesco Petrol Station, Fishbourne Road (Policy CC1)	-	Recreational pressure	The site lies within the 5.6km 'zone of influence' of the SPA and Ramsar site and therefore is likely to result in an increase in recreational pressure upon the European designated sites. In order to mitigate for this additional recreational pressure, developer contributions per new dwelling to the Solent Disturbance and Mitigation Project through the S106 agreements and/or CIL will be necessary.
Housing sites allocations are provisioned for Bartholomew's, Bognor Road (57 dwellings), 117 The Hornet (35 dwellings) and Shopwyke Strategic Development Location, Oving (85 dwellings, in addition to 500 already allocated in Chichester Local Plan Key Policies Policy 16). A potential impact pathway, recreational pressure, could not be screened out at the LSE test stage.			
Bartholomew's, Bognor Road (Policy CC2)	CC1415	Recreational pressure	These sites lie within the 5.6km 'zone of influence' of the SPA and Ramsar site and therefore are likely to result in an increase in recreational pressure upon the European designated sites. In order to mitigate for this additional recreational pressure, developer contributions per new dwelling to the Solent Disturbance and Mitigation Project through the S106 agreements and/or CIL will be necessary.
117 The Hornet (Policy CC3)	-		
Shopwyke Strategic Development Location, Oving (Policy CC4)	CC08213		
A housing site allocation consisting of 7 dwellings is provisioned for Land south of Reedbridge Farm. A potential impact pathway, recreational pressure, could not be screened out at the LSE test stage.			
Land south of Reedbridge Farm (Policy HN1)	HN08235	Recreational pressure	This site lies within the 5.6km 'zone of influence' of the SPA and Ramsar site and therefore is likely to result in an increase in recreational pressure upon the European designated sites. In order to mitigate for this additional recreational pressure, developer contributions per new dwelling to the Solent Disturbance and Mitigation Project through the S106 agreements and/or CIL will be necessary.

Summary

A total of six housing site allocations are situated within the 5.6km zone of influence of Chichester and Langstone Harbours SPA and Ramsar site and Solent Maritime SAC (the Solent European sites), including the Medmerry realignment. These are covered by policies BO1, CC1, CC2, CC3, CC4 and HN1. As such these housing site allocations will result in increased recreational pressure on the internationally designated sites. In order to mitigate for this additional recreational pressure upon these Solent European sites, developer contributions to the Solent Disturbance and Mitigation Project per new dwelling through the S106 agreements and/or CIL will be necessary. Provided that these contributions are made in line with Local Plan Policy 50 (Development and Disturbance of Birds in Chichester and Langstone Harbours Special Protection Area) no actual adverse effects on integrity will result.

One of the housing site allocations (Land at Highgrove Farm, Policy BO1) is situated within an area that has the potential to form supporting habitat for foraging and roosting over-wintering populations of brent goose and wader species associated with the Solent European sites and is large enough to potentially be of significance for the SPA/Ramsar population. Research/studies regarding utilised feeding sites for these species outside of the Solent European sites have not been undertaken as far north as the strategically allocated sites identified within the Chichester Site Allocation Development Plan. This may itself indicate that it is not expected that significant numbers of brent goose or waders will roost/feed this far from the SPA/Ramsar site. It is recommended that a Phase 1 habitat survey is conducted for the planning application for this site in order to determine the suitability of the habitat within the site to support brent goose and wader species. If the habitat is considered to be suitable

wintering bird surveys should be conducted to determine the use of the site by bird species. If it is determined that the site is significant as a roosting/feeding site for wintering waders or brent goose then mitigation in accordance with Solent Waders and Brent Goose Strategy guidance³⁴ will be required to ensure no net loss of such habitat. It is not considered that the need to provide mitigation (if it emerged) would provide deliverability difficulties for this site.

³⁴ Solent Waders and Brent Goose Strategy Steering Group. (2018) Solent Waders and Brent Goose Strategy: Interim Guidance on Mitigation and Off-setting Requirements. March 2018.

5 Pagham Harbour SPA and Ramsar Site

5.1 Introduction

Pagham Harbour comprises an extensive central area of saltmarsh and tidal mudflats, with surrounding habitats including lagoons, shingle, open water, reed swamp and wet permanent grassland. The intertidal mudflats are rich in invertebrates and algae and provide important feeding areas for birds.

Most of the site is a Local Nature Reserve managed by West Sussex County Council.

5.2 Features of European Interest³⁵

Pagham Harbour SPA qualifies under Article 4.1 of the Birds Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive.

During the breeding season:

- Common Tern *Sterna hirundo*: 0.5% of the breeding population in Great Britain (1996); and
- Little Tern *Sternula albifrons*: 0.3% of the breeding population in Great Britain (5-year mean, 1992-1996).

Over winter:

- Ruff *Philomachus pugnax*: 1.4% of the population in Great Britain (5-year peak mean 1995–1999); and
- Little Egret *Egretta garzetta*: 100 individuals, representing up to 20.0% of the wintering population in Great Britain (1998).

This site also qualifies under Article 4.2 of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species.

Over winter:

- Dark-bellied Brent Goose *Branta bernicla bernicla*: 0.6% of the population (5-year peak mean 1991/2–1995/6).

Pagham Harbour Ramsar site qualifies under one of the nine Ramsar criteria.

Table 5-1 Pagham Harbour Ramsar site criteria

Ramsar criterion	Description of criterion	Pagham Harbour
6	A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird.	Dark-bellied brent goose <i>Branta bernicla bernicla</i> : 2512 individuals, representing an average of 1.1% of the populations (5-year peak mean 1998/99–2002/03) Black-tailed godwit <i>Limosa limosa islandica</i> : 377 individuals, representing an average of 1% of the population (5-year peak mean 1998/99–2002/03). ³⁶

³⁵ Features of European Interest are the features for which a European site is selected. They include habitats listed on Annex 1 of the Habitats Directive, species listed on Annex II of the EC Habitats Directive and populations of bird species for which a site is designated under the EC Birds Directive.

³⁶ This population was identified subsequent to designation, for possible future consideration.

It is important to note that this area also includes the Medmerry Realignment Scheme which was created in order to provide compensatory habitat for future effects on the Solent European sites as a result of coastal defence work.

5.3 Historic Trends and Current Pressures

The majority of the site is managed as a nature reserve by West Sussex County Council. Historical land drainage for agricultural purposes is being addressed through the Local Nature Reserve Management Plan and Management Agreements, while pollution from inadequate treatment of sewage discharges is reviewed by the Environmental Agency.

Studies by the Environment Agency indicate that existing sewage discharges are not having a significant adverse effect on the integrity of the Pagham Harbour SPA/Ramsar site.

The latest Natural England condition assessment of Pagham Harbour SSSI indicated that 93% of the site was in favourable condition.

5.4 Key Environmental Conditions

The following key environmental conditions have been identified for the site:

- Sufficient space between the European site and development to allow for managed retreat of intertidal habitats (to avoid coastal squeeze);
- Maintenance of appropriate hydrological regime;
- Unpolluted water;
- Absence of nutrient enrichment of water;
- Absence of non-native species; and
- Absence of disturbance.

5.5 Potential Effects of the Plan

5.5.1 Test of Likely Significant Effects

The LSE test undertaken in Appendix E examined potential impact pathways for the housing and employment site allocations. It was necessary to consider the following potential impact pathways:

- Increased recreational pressure; and
- Loss of off-site feeding and roosting habitats for bird species (specifically brent goose and black-tailed godwit).

Urbanisation and coastal squeeze have been previously discussed at a strategic level. No likely significant effects are anticipated and therefore these impact pathways will not be considered further within this Section.

Of the two impact pathways that were considered, the LSE test found that recreational pressure may affect Chichester SPA/Ramsar site as a result of a housing site allocation; specifically Land south of Reedbridge Farm (Policy HN1). It was therefore necessary to consider this potential impact pathway at the AA stage. The LSE test found that the employment site allocations will not result in impact pathways that are likely to affect Chichester SPA/Ramsar site, and as such these site allocations were not subject to AA.

5.5.2 Appropriate Assessment

Following the LSE test, AA was undertaken of one housing site allocation which has the potential to result in impact pathways affecting Pagham Harbour SPA/Ramsar site.

Table 5-2 Appropriate Assessment of site allocations for Pagham Harbour SPA and Ramsar site.

Site name	Site code	Impact pathway	Appropriate Assessment of impact pathway
A housing site allocation consisting of 7 dwellings is provisioned for Land south of Reedbridge Farm. A potential impact pathway, recreational pressure, could not be screened out at the LSE test stage.			
Land south of Reedbridge Farm (Policy HN1)	HN08235	Recreational pressure	This site lies within 3.5km of the 'zone of influence' of the SPA and Ramsar site. Any new residential development is likely to result in increased recreational pressure on Pagham Harbour. In order to mitigate for this additional recreational pressure a contribution towards the appropriate management of Pagham Harbour Local Nature Reserve in accordance with the LNR management plan, or a developer-provided package of measures associated with the proposed development designed to avoid any significant effects or a combination of these, will be required.

Summary

One housing site allocation (Land south of Reedbridge Farm, Policy HN1) lies within the 3.5km 'zone of influence' of the SPA and Ramsar site, which is likely to lead in an increase in recreational pressure at Pagham Harbour. In order to mitigate for the additional recreational pressure upon the European designated sites a contribution towards the appropriate management of Pagham Harbour Local Nature Reserve in accordance with the LNR management plan, or a developer package of measures associated with the proposed development designed to avoid any significant effects, will be required at this site. Provided that this site allocation is delivered in line with the requirements of Local Plan Policy 51 (Development and Disturbance of Birds in Pagham Harbour Special Protection Area) no adverse effects on integrity will arise.

6 Ebernoe Common SAC

6.1 Introduction

Ebernoe Common is an internationally important example of ancient woodland. It contains a wide range of structural and vegetation community types which have been influenced in their development by differences in the underlying soils and past management. The native trees, particularly those with old growth characteristics, support rich lichen and fungal communities and a diverse woodland breeding bird assemblage. Nationally important maternity roosts for barbastelle and Bechstein's bat occur within the woodland.

At its closest point the SAC lies adjacent to part of the Local Plan area to which the Chichester Local Plan: Key Policies Submission Document applies.

6.2 Features of European Interest³⁷

Ebernoe Common SAC qualifies as an SAC for both habitats and species. Firstly, the site contains the following Habitats Directive Annex I habitat:

- Beech forests on acid soils.

Secondly, the site contains the following Habitats Directive Annex II species:

- Barbastelle *Barbastella barbastellus*; and
- Bechstein's bat *Myotis bechsteinii*.

6.3 Historic Trends and Current Conditions

Ebernoe Common SAC is owned and managed by Sussex Wildlife Trust (SWT). There is evidence that the Common has contained a mixture of open pasture and high forest for centuries. Ebernoe Nature Reserve is an Open Access site and is fairly well used (SWT estimate up to 3,000 visitors per annum)³⁸.

In the most recent Natural England condition assessment process, 93% of Ebernoe Common SSSI was considered to be in favourable condition, with the remainder recovering from unfavourable status.

6.4 Key Environmental Conditions

The key environmental conditions that support the features of European interest have been defined as:

- Appropriate management;
- Minimal atmospheric pollution – may increase the susceptibility of beech trees to disease and alter epiphytic communities;
- Absence of disturbance;
- In a wider context, bats require good connectivity of landscape features to allow foraging and commuting;
- Both bat species have close association with woodland. Areas of undesignated woodland adjacent to SAC may be of most importance to population; and

³⁷ Features of European Interest are the features for which a European site is selected. They include habitats listed on Annex 1 of the Habitats Directive, species listed on Annex II of the EC Habitats Directive and populations of bird species for which a site is designated under the EC Birds Directive.

³⁸ Monk-Terry, M. & Lyons, G. Sussex Wildlife Trust Ebernoe Nature Reserve Management Plan 2010-2015.

- Barbastelles require a constant humidity around their roosts; any manipulation of the shrub layer must be carefully considered.

Ebernoe Common is an exceptional site for both species of bats. Much of what is known about the foraging behaviour of barbastelle bats has been derived by studies carried out over the past fifteen years, and the studies are able to give detailed information on flightlines surrounding Ebernoe Common of the barbastelle bat:

- Greenaway, F. (2005) Advice for the management of flightlines and foraging habitats of the barbastelle bat *Barbastella barbastellus*. English Nature Research Report Number 657; and
- Greenaway, F. (2008) Barbastelle bats in the Sussex West Weald 1997–2008.

These studies revealed that the barbastelle bats at Ebernoe Common SAC had flightlines that followed watercourses, particularly the River Kird, and woodland cover for distances of typically 5km. Flightlines outside the SAC are particularly to the south (the Petworth and Tillington area) but also to the west, north and east. The Bechstein's bat population has been studied less. However, radio-tracking projects which have been implemented for the species have established that the tracked individuals generally remained within approximately 1.5km of their roosts³⁹. These distances fit with those identified from radio-tracking of Bechstein's bats undertaken at Ebernoe Common SAC from 2001, which identified that the maximum distance travelled by a tagged Bechstein's bat to its foraging area was 1,407m, with the average 735.7m⁴⁰. Development proposals near to Ebernoe Common SAC (including windfall sites and sites not identified within the SDNPA Local Plan) have the potential to result in LSE on the bat species of Ebernoe Common SAC via direct habitat loss or disturbance from lighting, noise and vibrations both during construction and operational phases of development. Recent Natural England advice proposed the following zone-based approach when assessing potential impact pathways for the South Downs National Park:

- A 'key conservation area' – for any development proposed within 6.5km of the SAC, all impacts will be considered; and
- A 'wider conservation area' – for any development proposed 6.5-12km from the SAC, significant impacts or severance of flightlines will be considered. This area encompasses the full extent from the SAC in which bats may forage.

6.5 Potential Effects of the Plan

6.5.1 Test of Likely Significant Effects

The LSE test undertaken in Appendix E examined potential impact pathways for the housing and employment site allocations. It was necessary to consider the following potential impact pathway:

- Disturbance of bat flightlines through development within the north of the Local Plan area.

The potential for impacts on air quality has been previously discussed at a strategic level. No likely significant effects are anticipated.

The LSE test found that a housing site allocation lies within the SAC's 'key conservation area' and may therefore result in the disturbance of bat flightlines. It was therefore necessary to consider this potential impact pathway at the AA stage. The LSE test found that the employment site allocations will not result in impact pathways that are likely to affect Ebernoe Common SAC, as none of them lie within the 12km 'wider conservation area' of the site. As such these site allocations were not subject to AA.

6.5.2 Appropriate Assessment

Following the LSE test, AA was undertaken of one housing site allocation which has the potential to result in impact pathways affecting Ebernoe Common SAC.

³⁹ Cited in: Schofield, H. & Morris C. (2000) 'Ranging Behaviour and Habitat Preferences of Female Bechstein's Bats in Summer'. Vincent Wildlife Trust.

⁴⁰ Fitzsimmons, P., Hill, D. & Greenaway, F. (2002) Patterns of habitat use by female Bechstein's bats (*Myotis bechsteinii*) from a maternity colony in a British woodland.

Table 6-1 Appropriate Assessment of site allocations for Ebernoe Common SAC.

Site name	Site code	Impact pathway	Appropriate Assessment of impact pathway
A housing site allocation consisting of 10 dwellings is provisioned for Land north of Little Springfield Farm. A potential impact pathway, disturbance of bat flightlines, could not be screened out at the LSE test stage.			
Land north of Little Springfield Farm (Policy PL1)	IF1504	Disturbance of bat flightlines through development within the north of the Local Plan area	The site does have the potential to impact upon barbastelle and Bechstein's bat flightlines as it lies within the SAC's 'key conservation area'. The site is connected to Waphurst Wood to the south of the site with a waterbody situated between the site and the woodland. It is recommended that bat surveys are conducted at this site to determine the use of the site by bat species. Mitigation for lighting requirements is likely to be required. Preservation of features of relevance to commuting bats (along with a suitable buffer) should be possible without significant deliverability implications for the site.

Summary

One of the housing site allocations (Land north of Little Springfield Farm, Policy PL1) has the potential to have a significant effect on the bat flightlines of barbastelle and/or Bechstein's bat depending on how it is delivered. This is because it has suitable habitat to support bat features of the SAC within or nearby and lies within the 5km zone which radio-tracking has indicated is the typical foraging distance used by barbastelle bat associated with the SAC. As such it is recommended that bat surveys are conducted for the planning application to determine the use of the site by bat species. Following that, mitigation and careful design such as lighting plans to protect commuting features and buffer zones, and sensitive seasonal timing of works may need to be implemented. The preservation of features of relevance to commuting bats (along with a suitable buffer) should be possible without significant deliverability implications for the site.

7 The Mens SAC

7.1 Introduction

The Mens remains one of the most extensive examples of Wealden Woodland in West Sussex. It is important for its size, structural diversity and the extremely rich fungal and lichen floras which occur here. The wood supports a diverse community of breeding birds and is the locality of a nationally endangered species of fly.

At its closest point the SAC lies adjacent to part of the Local Plan area to which the Chichester Local Plan: Key Policies Submission Document applies.

7.2 Features of European Interest⁴¹

The Mens SAC qualifies as a SAC for both habitats and species. Firstly, the site contains the following Habitats Directive Annex I habitat:

- Beech forests on acid soils.

Secondly, the site contains the following Habitats Directive Annex II species:

- Barbastelle *Barbastella barbastellus*.

7.3 Historic Trends and Current Pressures

The Mens SAC is owned and managed by Sussex Wildlife Trust.

In the most recent Natural England condition assessment process, 97% of The Mens SSSI was considered to be in favourable condition.

7.4 Key Environmental Conditions

The key environmental conditions that support the features of European interest have been defined as:

- Appropriate woodland management;
- Low recreational pressure (because management is minimum intervention and Bridleway degradation by horse riding is a recurring threat);
- Minimal air pollution – may increase the susceptibility of beech trees to disease and alter epiphytic communities; and
- Barbastelles require a constant humidity around their roosts; any manipulation of the shrub layer must be carefully considered.

The Mens SAC is owned and managed by Sussex Wildlife Trust. The Mens SAC is important for its barbastelle populations and radio-tracking studies have been undertaken to identify core foraging areas. These reports have identified that the barbastelles of The Mens SAC forage to the east of the SAC, principally on the floodplain of the river Arun from near to Horsham in the north to Parham in the south. They also cross to the Adur floodplain. In some cases the bats travelled up to 7km to visit foraging areas⁴². Whilst it is conceivable that barbastelles in the SAC use a wider area for activities such as migrating between hibernation roosts and summer roosts, the currently available radio-tracking evidence indicates that a 7km distance is likely to encompass the core foraging area of importance for barbastelle associated with the SAC.

⁴¹ Features of European Interest are the features for which a European site is selected. They include habitats listed on Annex 1 of the Habitats Directive, species listed on Annex II of the EC Habitats Directive and populations of bird species for which a site is designated under the EC Birds Directive.

⁴² Greenaway, F. (2008) Barbastelle bats in the Sussex West Weald 1997–2008.

Development proposals near to The Mens SAC have the potential to result in LSE on the bats species of Ebernoe Common SAC via direct habitat loss or disturbances from lighting, noise and vibrations both during construction and operational phases of development. Recent Natural England advice proposed the following zone-based approach when assessing potential impact pathways for the South Downs National Park:

- A 'key conservation area' – for any development proposed within 6.5km of the SAC, all impacts will be considered; and
- A 'wider conservation area' – for any development proposed 6.5-12km from the SAC, significant impacts or severance of flightlines will be considered. This area encompasses the full extent from the SAC in which bats may forage.

7.5 Potential Effects of the Plan

7.5.1 Test of Likely Significant Effects

The LSE test undertaken in Appendix E examined potential impact pathways for the housing and employment site allocations. It was necessary to consider the following potential impact pathway:

- Disturbance of bat flightlines through development within the north of the Local Plan area.

The potential for impacts on air quality has been previously discussed at a strategic level. No likely significant effects are anticipated.

The LSE test found that a housing site allocation lies within the SAC's 'key conservation area' and may therefore result in the disturbance of bat flightlines. It was therefore necessary to consider this potential impact pathway at the AA stage. The LSE test found that the employment site allocations will not result in impact pathways that are likely to affect The Mens SAC, as none of them lie within the 12km 'wider conservation area' of the site. As such these site allocations were not subject to AA.

7.5.2 Appropriate Assessment

Following the LSE test, AA was undertaken of one housing site allocation which has the potential to result in impact pathways affecting The Mens SAC.

Table 7-1 Appropriate Assessment of site allocations for The Mens SAC

Site name	Site code	Impact pathway	Appropriate Assessment of impact pathway
A housing site allocation consisting of 10 dwellings is provisioned for Land north of Little Springfield Farm. A potential impact pathway, disturbance of bat flightlines, could not be screened out at the LSE test stage.			
Land north of Little Springfield Farm (Policy PL1)	IF1504	Disturbance of bat flightlines through development within the north of the Local Plan area	The site is approximately 4.5km from the SAC, and is therefore within the SAC's 'key conservation area'. The site has the potential to impact upon barbastelle flightlines due to its relatively close proximity to the SAC. The main foraging areas for barbastelles associated with the SAC are to the east, rather than in the direction of the site, but the issue should be investigated and confirmed. The preservation of features of relevance to commuting bats (along with a suitable buffer) should be possible without significant deliverability implications for the site.

Summary

One of the housing site allocations (Land north of Little Springfield Farm, Policy PL1) could have a significant effect on the barbastelle flightlines due to the close proximity of the site to the SAC (within 7km), depending upon how it is designed and delivered. As such it is recommended that bat surveys are conducted to determine the use of the site by bat species. Following that, mitigation and careful design such as lighting plans to protect commuting features and buffer zones, and sensitive seasonal timing of works may need to be implemented. The preservation of features of relevance to commuting bats (along with a suitable buffer) should be possible without significant deliverability implications for the site.

8 Conclusion

8.1 Other Plans and Projects

As discussed earlier in this Document, a full analysis of the impacts of the Chichester Local Plan in combination with other plans and projects was made as part of that HRA report. Since the overall quantum of development planned for Chichester has not changed and many of the plans that were incorporated into that in combination assessment have also not changed, the core of that in combination assessment remains valid. Some of the impact pathways already discussed in this Document (particularly the recreational pressure analyses) are inherently 'in combination' since they only arise when development across the core catchments of Chichester and Langstone Harbour and Pagham Harbour are considered cumulatively.

In addition to the Site Allocation Development Plan, the South Downs National Park Authority has recently gone out to consultation on their preferred options Local Plan, which includes some site allocations. This covers a large part of rural Chichester District including areas within 5km of Ebernoe Common SAC and 7km of The Mens SAC. The Local Plan has been subject to an HRA report that has been consulted upon by Natural England. This includes recommendations (which are being reflected in Local Plan policy) that will specifically protect these two European sites from inappropriate development within the 5km and 7km zones. As such, an in combination LSE with the Site Allocation Development Plan Document would not arise.

There are a number of Neighbourhood Plan areas that have been designated in the Local Plan area. The Birdham, Bosham, Chidham and Hambrook, East Wittering & Bracklesham, Fishbourne, Southbourne and Tangmere Neighbourhood Plan areas all lie at least partly within 5.6km of Chichester and Langstone Harbours SPA/Ramsar site. The Selsey Neighbourhood Plan area lies within 3.5km of Pagham Harbour SPA. The development within these Neighbourhood Plan areas would therefore contribute collectively to the recreational pressure in combination effect already discussed for these European sites. However, all development in these Neighbourhood Plans must comply with the Local Plan, which already has policies in place to enable mitigation for recreational pressure on these sites. As such, no actual in combination effect will arise. The Selsey Neighbourhood Plan has been accompanied by an HRA which specifically sets out requirements to protect Pagham Harbour SPA/Ramsar site from loss of supporting habitat. None of the other Neighbourhood Plans have been accompanied by an HRA but the development control process would enable any land that is of importance as supporting habitat for SPA birds to be identified and protected or mitigated as necessary. As such, an LSE in combination with the Site Allocation Development Plan Document would not arise in practice.

The Kirdford, Loxwood and Wisborough Green Neighbourhood Plan areas all lie wholly or partly within either 5km of Ebernoe Common SAC or 7km of The Mens SAC. As such, individual sites will require consideration at the planning application stage as to whether habitats on site are likely to be used by (in particular) barbastelle and Bechstein's bat and if so whether the detailed design of the development is such that the key features are adequately protected. This will be secured through the District Council development management process such that an in combination LSE with the Site Allocation Development Plan Document would not arise.

8.2 Overall Conclusion

A number of housing and employment site allocations have been identified that lie within either 5.6km of Chichester & Langstone Harbours SPA/Ramsar site or within 3.5km of Pagham Harbour SPA/Ramsar site. Several housing allocations would lead to an LSE on the European sites as a result of increased recreational pressure, when considered in combination with other housing to be delivered within the core catchments. However, there are Local Plan policies specifically intended to address this matter. Since the sites must be compliant with Local Plan policy no actual adverse effect on integrity will arise from this pathway.

One housing site (Land at Highgrove Farm, Policy BO1) has been identified to be situated in an area that could be used by birds associated with either Chichester & Langstone Harbour SPA/Ramsar site and which is large enough to be potentially significant for these European sites.

It is important to understand that this is an intentionally precautionary assessment; no studies undertaken so far have flagged this site as being of importance to either SPA/Ramsar site. While this could be due to surveys having been undertaken and a judgment of 'no significance' having been reached it could also simply be due to absence of survey. It is therefore recommended that this site is subject to a Phase 1 Habitat Survey (followed if necessary by a passage/wintering bird survey) as part of the planning application. If the site is deemed to be of value as supporting habitat for either SPA/Ramsar site⁴³, then mitigation would be required to ensure no net loss of roosting/foraging habitat.

Finally, one site (Land north of Little Springfield Farm, Policy PL1) is located within sufficiently close proximity to Ebernoe Common SAC and The Mens SAC that, depending on how it is designed and delivered, it could adversely affect foraging and commuting routes for barbastelle and Bechstein's bats associated with the either (or both) SACs. This can be avoided through careful design and timing of works to minimise disturbance and ensure appropriate protection of commuting routes and associated buffer zones.

Policy SA1 of the Site Allocation DPD requires that all identified proposals and sites should comply with relevant policies set out in the Chichester Local Plan: Key Policies 2014-2029 and any other relevant policies and guidance. Policy 49 Biodiversity of the Chichester Local Plan sets the criteria which have to be demonstrated, including:

1. The biodiversity value of the site is safeguarded;
2. Demonstrable harm to habitats or species which are protected or which are of importance to biodiversity is avoided or mitigated; and
3. The proposal protects, manages and enhances the District's network of ecology, biodiversity and geological sites, including the international, national and local designated sites (statutory and non-statutory), priority habitats, wildlife corridors and stepping stones that connect them.

It is considered that this provides a sufficient policy framework to address the matters regarding the implicated housing site allocations. Therefore, a conclusion of no adverse effect on integrity of European sites can be made for the Site Allocation Development Plan Document, alone and in combination with other plans and projects.

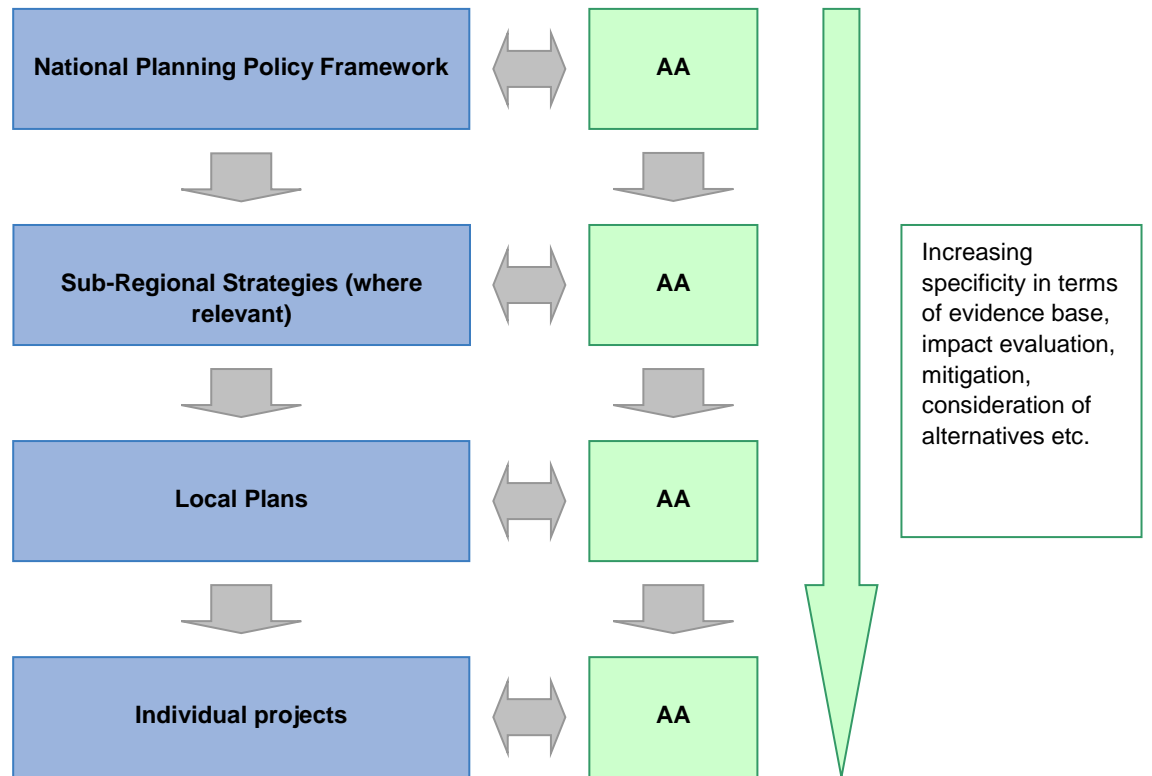
⁴³ Generally taken to be if the site regularly supports more than 1% of the SPA/Ramsar site population.

Appendix A Map of Employment Site Allocations

Appendix B Map of Housing Site Allocations

Appendix C Map of European Site Designations

Appendix D Summary of 'Tiering' of Assessment



Appendix E Test of Likely Significant Effects for Employment and Housing Site Allocations

The following employment site allocations are proposed. The potential of these employment site allocations to affect Chichester and Langstone Harbours SPA/Ramsar site ('Chichester'), Pagham Harbour SPA/Ramsar site ('Pagham'), Ebernoe Common SAC ('Ebernoe') and The Mens SAC ('The Mens') is discussed in the final column. Sites identified in green do not contain realistic impact pathways that could result in likely significant effects upon an internationally designated site, and as such can be 'screened out' at the LSE stage. Sites identified in orange have the potential to result in impact pathways that could result in likely significant effects upon an internationally designated site. For these sites, the Document also makes recommendations for avoidance and/or mitigation measures to ensure likely significant effects upon the internationally designated sites do not occur.

Site name	Site code	Impact pathway	Likely significant effects HRA screening
7.2ha is provisioned for an employment site allocation at High School, Kingsham Road. All potential impact pathways could be screened out at the LSE test stage. Therefore progression to the AA stage is not required.			
High School, Kingsham Road (CC6)	EMP1511	Loss of off-site feeding and roosting habitats for bird species	Chichester: at its closest this site is located 1.8km from the SPA and Ramsar site. From reviewing aerial photography, the site is located within the urban area of Chichester. EMP1511 appears to be a school playing field, subject to existing levels of disturbance located within an urban setting. This habitat is not suitable to support populations of SPA and Ramsar bird features.
			Pagham: at its closest this site is located 1.8km from the SPA and Ramsar site. From reviewing aerial photography, the site is located within the urban area of Chichester. EMP1511 is an educational establishment, subject to existing levels of disturbance located within an urban setting. This habitat is not suitable to support populations of SPA and Ramsar bird features.
		Disturbance of bat flightlines through development within the north of the Local Plan area	Ebernoe: this site lies over 12km from the SAC and is therefore unlikely to present potential for a likely significant effect on the SAC.
			The Mens: this site lies over 12km from the SAC and is therefore unlikely to present potential for a likely significant effect on the SAC.
2.4ha is provisioned for an employment site allocation at Plot 12 Terminus Road. All potential impact pathways could be screened out at the LSE test stage. Therefore progression to the AA stage is not required.			

Plot 12 Terminus Road (CC7)	EMP1513	Loss of off-site feeding and roosting habitats for bird species	Chichester: this site is located approximately 730m from the SPA and Ramsar site. From reviewing aerial photography, the site is separated from the SPA and Ramsar site by the A27 (a busy road) and housing. From reviewing aerial photography, the site is screened by a dense hedge line. In addition, the site is located at the edge of an industrial unit, with habitats including hard standing and tussocky grassland. These habitats are not considered suitable to support bird features for which the SPA and Ramsar site are designated.
			Pagham: this site is located well over 5km from the SPA and Ramsar site. In addition, the site is located at the edge of an industrial unit, with habitats including hard standing and tussocky grassland. Given this and the distance involved it is unlikely that the land will be of significance as supporting habitat for Pagham Harbour SPA/Ramsar site.
		Disturbance of bat flightlines through development within the north of the Local Plan area	Ebernoe: this site lies over 12km from the SAC and is therefore unlikely to present potential for a likely significant effect on the SAC.
			The Mens: this site lies over 12km from the SAC and is therefore unlikely to present potential for a likely significant effect on the SAC.
3.8ha is provisioned for an employment site allocation at Fuel Depot Site, Bognor Road (excluding site identified for waste uses in the Waste Local Plan 2014). All potential impact pathways could be screened out at the LSE test stage. Therefore progression to the AA stage is not required.			
Fuel Depot Site, Bognor Road (CC8)	EMP1502 (CC1444)	Loss of off-site feeding and roosting habitats for bird species	Chichester: this site is located approximately 3.7km from the SPA and Ramsar site. From reviewing aerial photography, this site appears to be an old industrial area (fuel depot) with railway sidings and raised bunkers that are topped with grass. The habitats on site and the heavily disturbed nature of the site make it unsuitable to support a significant population of bird features for which the SPA and Ramsar site are designated.
			Pagham: this site lies over 4.5km from the SPA and Ramsar site. Since it is a former industrial site it does not contain habitat suitable for brent goose or black tailed godwit.
		Disturbance of bat flightlines through development within the north of the Local Plan area	Ebernoe: this site lies over 12km from the SAC and is therefore unlikely to present potential for a likely significant effect on the SAC.
			The Mens: this site lies over 12km from the SAC and is therefore unlikely to present potential for a likely significant effect on the SAC.
2.4ha is provisioned for an employment site allocation at Springfield Park (adjacent to fuel depot). All potential impact pathways could be screened out at the LSE test stage. Therefore progression to the AA stage is not required.			
Springfield Park (adjacent to fuel depot), Oving (CC9)	EMP1514	Loss of off-site feeding and roosting habitats for bird species	Chichester: this site is located approximately 4km from the SPA and Ramsar site. From reviewing aerial photography this site is currently used for storage (such as caravans). The disturbed nature of this site makes it unsuitable to support significant populations of bird features for which the SPA and Ramsar site are designated.
			Pagham: this site is located over 4.5km from the SPA and Ramsar site. From reviewing aerial photography this site is currently used for storage (such as caravans). The disturbed nature of this site makes it unsuitable to support significant populations of bird features for which the SPA and Ramsar site are designated.

		Disturbance of bat flightlines through development within the north of the Local Plan area	Ebernoe: this site lies over 12km from the SAC and is therefore unlikely to present potential for a likely significant effect on the SAC.
			The Mens: this site lies over 12km from the SAC and is therefore unlikely to present potential for a likely significant effect on the SAC.

The following housing site allocations are proposed. The potential of these housing site allocations to affect Chichester and Langstone Harbours SPA/Ramsar site ('Chichester'), Pagham Harbour SPA/Ramsar site ('Pagham'), Ebernoe Common SAC ('Ebernoe') and The Mens SAC ('The Mens') is discussed in the final column. Where housing allocations have similar likely significant effects they have been discussed together. Sites identified in green do not contain realistic impact pathways that could result in likely significant effects upon an internationally designated site, and as such can be 'screened out' at the LSE stage. Sites identified in orange have the potential to result in impact pathways that could result in likely significant effects upon an internationally designated site. For these sites, the Document also makes recommendations for avoidance and/or mitigation measures to ensure likely significant effects upon the internationally designated sites do not occur.

Site name	Site code	Impact pathway	Likely significant effects HRA screening
A housing site allocation consisting of 50 dwellings is provisioned for Land at Highgrove Farm. Certain potential impact pathways, specifically recreational pressure and loss of off-site feeding and roosting habitat for bird species, could not be screened out at the LSE test stage. Therefore progression to the AA stage is required.			
Land at Highgrove Farm (Policy BO1)	BB08195	Recreational pressure	Chichester: this site lies well within the 5.6km 'zone of influence' of the SPA and Ramsar site and is therefore likely to result in an increase in recreational pressure upon the European designated sites. See AA (Section 4.5.2).
		Loss of off-site feeding and roosting habitat for bird species	Chichester: due to its proximity (c. 1km) and size (>10ha) this proposed development site has potential to act as supporting habitat beyond the boundaries of the designated site for foraging or roosting over-wintering populations of brent goose and wader species associated with the Solent European designated sites. See AA (Section 4.5.2).
		None	Pagham: this site is located over 6km from the SPA and Ramsar site. There are therefore no HRA implications.
		Disturbance of bat flightlines through development within the north of the Local Plan area	Ebernoe: due to the significant distance from the SAC it is extremely unlikely that the use of this site will have an impact upon the bat flightlines for barbastelle and Bechstein's bat.
The Mens: due to the significant distance from the SAC it is extremely unlikely that the use of this site will have an impact upon the bat flightlines for barbastelle.			
A housing site allocation consisting of 22 dwellings is provisioned for Land west of The Street. All potential impact pathways could be screened out at the LSE test stage. Therefore progression to the AA stage is not required.			

Land west of The Street (Policy BX1)	BX0805	Recreational pressure	Chichester: this site is over 5.6km from the Solent European sites. Recreational pressure associated with the proposed residential development of this land parcel is not anticipated to result in likely significant effects upon the Solent European sites.
		Loss of off-site feeding and roosting habitats for bird species	Chichester: it is considered unlikely that this site would support significant numbers of over-wintering brent goose and wader species which have been found to utilise habitats outside of the Solent European site boundaries. This is primarily due to the significant distance from the SPA and Ramsar site. Therefore the loss of this habitat is unlikely to impact upon the availability of off-site feeding and roosting habitats for bird species.
		Water quality and construction disturbance	Chichester: there is no pathway for surface water quality or construction disturbance impacts.
		None	Pagham: this site is located about the settlement of Boxgrove, at least 9km from the SPA and Ramsar site. There are no impact pathways present, and therefore there are no HRA implications.
		Disturbance of bat flightlines through development within the north of the Local Plan area	Ebernoe: due to the significant distance from the SAC it is extremely unlikely that the use of this site will have an impact upon the bat flightlines for barbastelle and Bechstein's bat. The Mens: due to the significant distance from the SAC it is extremely unlikely that the use of this site will have an impact upon the bat flightlines for barbastelle.
A housing site allocation consisting of 134 student flats is provisioned for Land Adjacent Tesco Petrol Station, Fishbourne. A potential impact pathway, recreational pressure, could not be screened out at the LSE test stage. Therefore progression to the AA stage is required.			
Land Adjacent Tesco Petrol Station, Fishbourne Road (Policy CC1)	-	Recreational pressure	Chichester: the site lies within the 5.6km 'zone of influence' of the SPA and Ramsar site and therefore is likely to result in an increase in recreational pressure upon the European designated sites. See AA (Section 4.5.2).
		Loss of off-site feeding and roosting habitats for bird species	Chichester: although the site lies within 2km of the SPA and Ramsar site it is sufficiently small and disturbed that it would not constitute supporting habitat.
		None	Pagham: this site is located 6km from the SPA and Ramsar site. There are no impact pathways present, and therefore there are no HRA implications.
		Disturbance of bat flightlines through development within the north of the Local Plan area	Ebernoe: due to the significant distance from the SAC it is extremely unlikely that the use of this site will have an impact upon the bat flightlines for barbastelle and Bechstein's bat. The Mens: due to the significant distance from the SAC it is extremely unlikely that the use of this site will have an impact upon the bat flightlines for barbastelle.

<p>Housing sites allocations are provisioned for Bartholomew's, Bognor Road (57 dwellings), 117 The Hornet (35 dwellings) and Shopwyke Strategic Development Location, Oving (85 dwellings, in addition to 500 already allocated in Chichester Local Plan Key Policies Policy 16). A potential impact pathway, recreational pressure, could not be screened out at the LSE test stage. Therefore progression to the AA stage is required.</p>			
Bartholomew's, Bognor Road (Policy CC2) 117 The Hornet (Policy CC3) Shopwyke Strategic Development Location, Oving (Policy CC4)	CC1415	Recreational pressure	Chichester: these sites lie within the 5.6km 'zone of influence' of the SPA and Ramsar site and therefore are likely to result in an increase in recreational pressure upon the European designated sites. See AA (Section 4.5.2)
		Loss of off-site feeding and roosting habitats for bird species	Chichester: these sites are sufficiently distant from the SPA and Ramsar site that given the small size and disturbed urban location they would not constitute supporting habitat for the SPA and Ramsar site.
	-	None	Pagham: these sites are located 6km from the SPA and Ramsar site. There are no impact pathways present, and therefore there are no HRA implications.
	CC08213	Disturbance of bat flightlines through development within the north of the Local Plan area	Ebernoe: due to the significant distance from the SAC it is extremely unlikely that the use of these sites will have an impact upon the bat flightlines for barbastelle and Bechstein's bat. The Mens: due to the significant distance from the SAC it is extremely unlikely that the use of these sites will have an impact upon the bat flightlines for barbastelle.
<p>A housing site allocation consisting of 7 dwellings is provisioned for Land south of Reedbridge Farm. A potential impact pathway, recreational pressure, could not be screened out at the LSE test stage. Therefore progression to the AA stage is required.</p>			
Land south of Reedbridge Farm (Policy HN1)	HN08235	Recreational pressure	Chichester: this site lies within the 5.6km 'zone of influence' of the SPA and Ramsar site and therefore is likely to result in an increase in recreational pressure upon the European designated sites. See AA (Section 4.5.2). Pagham: this site lies within 3.5km of the SPA and Ramsar sites 'zone of influence'. Any new residential development is likely to result in an increased of recreational pressure upon Pagham Harbour. See AA (Section 5.5.2).
		Loss of off-site feeding and roosting areas for bird species	Chichester: this site is situated over 2km from the SPA and Ramsar site and is situated beyond separating settlements. It is therefore considered unlikely that it is significant as supporting habitat for the SPA and Ramsar site. Pagham: this site is considered to be small enough and/or sufficiently distant from the SPA and Ramsar site that it is unlikely to be of significance to the SPA population of brent goose or black tailed godwit.
		Water quality and construction disturbance	Chichester: there are no pathways for surface water quality or construction disturbance impacts.

		Disturbance of bat flightlines through development within the north of the Local Plan area	<p>Ebernoe: due to the significant distance from the SAC it is extremely unlikely that the use of this site will have an impact upon the bat flightlines for barbastelle and Bechstein's bat.</p> <p>The Mens: due to the significant distance from the SAC it is extremely unlikely that the use of this site will have an impact upon the bat flightlines for barbastelle.</p>
<p>A housing site allocation consisting of 10 dwellings is provisioned for Land north of Little Springfield Farm. A potential impact pathway, disturbance of bat flightlines, could not be screened out at the LSE test stage. Therefore progression to the AA stage is required.</p>			
Land north of Little Springfield Farm (Policy PL1)	IF1504	None	<p>Chichester: this site is located more than 30km from Chichester and Langstone Harbours SPA and Ramsar site and Solent Maritime SAC. There are no HRA implications.</p>
		Recreational pressure	<p>Pagham: this site lies outside the 3.5km zone of influence and therefore recreational pressure associated with this land parcel is not anticipated.</p>
		Loss of off-site feeding and roosting areas for bird species	<p>Pagham: due to the distances involved, it is considered unlikely that this site would support significant numbers of over-wintering brent goose or black-tailed godwit. Therefore the loss of this habitat is unlikely to impact upon the availability of off-site feeding and roosting habitats for bird species.</p>
		Disturbance of bat flightlines through development within the north of the Local Plan area	<p>Ebernoe: the site is approximately 4.7km from the SAC, and is therefore within the SAC's 'key conservation area'. The site has the potential to impact upon barbastelle and Bechstein's bat flightlines due to its close proximity to the SAC. See AA (Section 6.5.2).</p> <p>The Mens: the site is approximately 4.5km from the SAC, and is therefore within the SAC's 'key conservation area'. The site has the potential to impact upon barbastelle flightlines due to its relatively close proximity to the SAC. See AA (Section 7.5.2).</p>

About AECOM

AECOM (NYSE: ACM) is a global provider of professional technical and management support services to a broad range of markets, including transportation, facilities, environmental, energy, water and government. With approximately 100,000 employees around the world, AECOM is a leader in all of the key markets that it serves. AECOM provides a blend of global reach, local knowledge, innovation, and collaborative technical excellence in delivering solutions that enhance and sustain the world's built, natural, and social environments. A Fortune 500 company, AECOM serves clients in more than 100 countries and has annual revenue in excess of \$6 billion.

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