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Habitats Regulations Assessment for the Fareham Borough Local Plan 2036

Screening Report for the Draft Plan

September 2017

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Contents

List of Tables and Figures

Abbreviations

APIS	Air Pollution Information System
BG	(Dark-bellied) Brent goose
BOD	Biological oxygen demand
HRA	Habitat Regulations Assessment
IUCN	International Union for Conservation of Nature
IWMS	Integrated Water Management Strategy
JNCC	Joint Nature Conservancy Committee
N	Nitrogen
NO_2	Nitrogen dioxide
NO_x	Nitrogen oxides
NPPF	National Planning Policy Framework
P	Phosphorous
PUSH	Partnership for Urban South Hampshire
RoC	Review of Consents
SA	Sustainability Appraisal
SAC	Special Area of Conservation
SRMP	Solent Recreation Mitigation Partnership
SEA	Strategic Environmental Assessment
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
WeBS	Wetland Bird Survey
WFD	Water Framework Directive
WRMP	Water Resource Management Plan
WTW	Wastewater Treatment Works

0 Executive Summary

0.1 Introduction

0.1.1 This document sets out a screening assessment under the Habitats Regulations for the Fareham Borough Local Plan 2036. The report accompanies the consultation on the Draft Plan and forms part of the evidence base upon which it is based. A related Sustainability Appraisal has also been prepared and is reported separately.

0.2 Scope of the Assessment

0.2.1 Acknowledging that the Local Plan is not directly connected with or necessary to management of the sites for nature conservation, the Habitats Regulations Assessment (HRA) considers the following European sites for likely significant or adverse effects on integrity:

- Butser Hill Special Area of Conservation (SAC)
- Solent & Isle of Wight Lagoons SAC
- The New Forest SAC
- Portsmouth Harbour Special Protection Area (SPA)
- Solent & Southampton Water SPA
- Chichester & Langstone Harbours Ramsar
- Solent & Southampton Water Ramsar
- River Itchen SAC
- Solent Maritime SAC
- Chichester & Langstone Harbours SPA
- Solent & Dorset Coast pSPA
- The New Forest SPA
- Portsmouth Harbour Ramsar
- The New Forest Ramsar

0.3 Conclusions

0.3.1 It was not possible to conclude whether the Local Plan is likely to lead to significant atmospheric pollution effects, resulting from the in combination effects of multiple developments at the strategic scale. A sub-regional air quality study is currently being prepared and it was considered necessary to await the final report before assessing the likely significant effects of the plan.

0.3.2 Within this HRA it is assumed that all proposed developments within 5.6km of the Solent SPAs resulting in a net increase in dwellings will comply with proposed policy NE3, and hence would not lead to (strategically-operating) disturbance effects and can be screened-out of the HRA process. The potential for site-specific disturbance effects is considered separately.

0.3.3 It was not possible to conclude whether the Local Plan is likely to lead to significant effects through water abstraction, resulting from the in combination effects of multiple developments at the strategic scale. A sub-regional Integrated Water Management Study is currently being prepared and it was considered necessary to await the final report before assessing the likely significant effects of the plan.

0.3.4 It was not possible to conclude whether the Local Plan is likely to lead to significant effects through water pollution, resulting from the in combination effects of multiple developments at the strategic scale. A sub-regional Integrated Water Management Study is currently being prepared and it was considered necessary to await the final report before assessing the likely significant effects of the plan.

0.3.5 None of the proposed site allocations overlap partially or wholly with an SAC/SPA/Ramsar or an Important Brent goose / wader site, and significant effects through habitat loss are not likely. Three of the proposed site allocations are within 50m of, or have known hydrological pathways to, an SAC/SPA/Ramsar, and could result in likely significant effects through aquatic or atmospheric pollution during construction. Six of the proposed site allocations are close to an SAC/SPA/Ramsar, and could result in likely significant effects through construction noise, construction activity, operational activity, shortened view-lines.

0.3.6 The Local Plan will be taken forward to the Appropriate Assessment stage to examine the nature of these effects in further detail.

0.4 Consultation Arrangements

0.4.1 The HRA Report is being made available for consultation as part of the Draft Plan consultation in autumn 2017 and can be viewed at:

http://www.fareham.gov.uk/planning/farehamlocalplanreview.aspx

Planning Strategy and Regeneration
Fareham Borough Council
Civic Offices, Civic Way, Fareham, Hampshire PO16 7AZ

0.4.2 Responses to this consultation exercise should be sent to:

Planning Strategy and Regeneration
Fareham Borough Council
Civic Offices, Civic Way, Fareham, Hampshire PO16 7AZ
planningpolicy@fareham.gov.uk

1 Introduction

1.1 Purpose of this Report

1.1.1 This report has been prepared for Fareham Borough Council as part of the Habitats Regulations Assessment (HRA) for the Local Plan 2036. The report accompanies the consultation on the Draft Plan and forms part of the evidence base upon which it is based. A related Sustainability Appraisal has also been prepared and is reported separately.

1.2 The Fareham Borough Local Plan 2036

1.2.1 Currently the development plan for Fareham Borough is comprised of the following documents:

- Local Plan Part 1: Core Strategy (adopted August 2011);
- Local Plan Part 2: Development Sites and Policies (DSP) Plan (adopted June 2015);
- Local Plan Part 3: The Welborne Plan (adopted June 2015); and
- Hampshire Minerals and Waste Plan (adopted October 2013).

1.2.2 During examination of the DSP and Welborne Plans the Inspector acknowledged that the Core Strategy was adopted prior to publication of the National Planning Policy Framework (NPPF; DCLG, 2012) and does not therefore constitute an up to date, NPPF-compliant development plan with respect to objectively assessed housing need. However, he was satisfied that the plans formed a sound interim basis for development provided that the development plan was subject to an early review to take account of objectively assessed housing needs, alongside a range of other considerations.

1.2.3 The new Local Plan will set the planning strategy for the borough and address emerging housing and employment needs for a period of 20 years up to 2036. It will encompass the entirety of the borough including Welborne but the Welborne Plan will continue to apply as well. The Draft Plan sets out proposed strategic and development management policies, development allocations and actions to meet the environmental, social and economic challenges facing the borough. When adopted the Local Plan will provide a strategy for the distribution, scale and form of development and supporting infrastructure, a set of proposals to deliver the strategy, policies against which to assess planning applications, and proposals for monitoring the success of the plan.

1.2.4 The spatial development strategy proposed by the Draft Plan includes:

- Provision for approximately 11,300 new dwellings and 130,000m^2 of new employment floorspace;
- The strategic site at Welborne to provide a new Garden Village community delivering approximately 6,000 new dwellings and 20 hectares of employment land;

- The strategic employment site at Daedalus to support the Enterprise Zone and deliver an additional 52,000m^2 over and above that already planned;
- Strategic opportunities at Fareham Town Centre contributing around 600 dwellings as part of a wider regeneration strategy;
- Greenfield clusters of residential-led development at Warsash-Greenaway Lane, Segensworth and Newgate Lane South, delivering approximately 1,575 dwellings; and
- Development allocations on previously developed and greenfield land to meet remaining needs, but otherwise strictly controlled development outside of urban areas.

1.3 Habitats Regulations Assessment

1.3.1 Habitats Regulations Assessment is a requirement of the Conservation of Habitats and Species Regulations 2010 (as amended; 'the Habitats Regulations'), the UK's transposition of *European Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora* ('the Habitats Directive'). HRA must be applied to any plan or project in England and Wales with the potential to adversely affect the ecological integrity of any sites designated for their nature conservation importance as part of a system known collectively as the Natura 2000 network of European sites.

1.3.2 European sites provide ecological infrastructure for the protection of rare, endangered or vulnerable natural habitats and species of exceptional importance within the European Union. These sites consist of Special Areas of Conservation (SAC, designated under the Habitats Directive) and Special Protection Areas (SPA, designated under *European Council Directive 2009/147/EC on the conservation of wild birds* ('the Birds Directive')). Additionally the National Planning Policy Framework (DCLG, 2012) and Circular 06/05 (ODPM, 2005) require that Ramsar sites (UNESCO, 1971) are treated as if they are fully designated European sites for the purposes of considering development proposals that may affect them.

1.4 Scope and Structure of this Document

1.4.1 The document is structured around the following sections:

- Chapter Two: HRA methodology;
- Chapter Three: European sites, qualifying features, conservation objectives, condition status, population trends and threats to site integrity;
- Chapter Four: European site characterisation;
- Chapter Five: Evidence relating to the pathways of impacts to European sites;
- Chapter Six: Assessment of likely significant effects; and
- Chapter Seven: Summary and conclusions.

2 Methodology

2.1 Good Practice Guidance

2.1.1 Draft guidance on HRA has been defined by DEFRA (2012) and DCLG (2006) with more detailed draft guidance from Natural England (Tyldesley, 2009) and a range of other bodies[1]. More recently *The Habitats Regulations Assessment Handbook* (Tyldesley & Chapman, 2013) was developed to improve earlier methodologies on the basis of recent good practice and case law, and in response to Defra's Habitats and Birds Directives Implementation Review. The requirement for HRA stems from Articles 6(3) and 6(4) of the Habitats Directive, which are represented by four stages within the HRA process as listed in Table 2.1 which illustrates their relationship to stages within the DEFRA (2012) guidance.

2.1.2 The Screening Assessment and Appropriate Assessment for the Local Plan are being undertaken with reference to the *HRA Handbook*.

Table 2.1: Stages of HRA in guidance from Tyldesley & Chapman (2013) & DEFRA (2012)

HRA Handbook stage	Equivalent DEFRA stage
Stage 1: Screening for Likely Significant Effects	Stage 1: Screening for likely significant effects
Stage 2: Appropriate Assessment & Integrity Test	Stage 2: Appropriate assessment
Stage 3: Alternative Solutions	Derogations Test 1: Alternative solutions
Stage 4: Imperative Reasons of Overriding Public Interest and Compensatory Measures	Derogations Test 2: Imperative reasons of overriding public interest Derogations Test 3: Compensatory measures

2.1.3 In *The Habitats Regulations Assessment Handbook* (Tyldesley & Chapman, 2013) section F.1.1.2 (Introduction and overview to 'Plan' assessment) it is recognised that the assessment of a plan may not be as precise and detailed as that of a project at application stage. Strategic documents such as a Local Plan also vary in their degree of specificity ranging from very general statements which may cover a wide geographic area to more prescriptive proposals that are scale and location specific.

2.1.4 An HRA must determine whether or not a plan or project will adversely affect the integrity of the European site(s) concerned, in view of the site's conservation objectives. Where adverse effects are anticipated changes must be made to the plan or project. The process is characterised by the precautionary principle, defined as (European Commission, 2000a):

> *"If a preliminary scientific evaluation shows that there are reasonable grounds for concern that a particular activity might lead to damaging effects on the environment, or on human,*

[1] For example European Commission (2001) and RSPB (Dodd *et al*, 2007)

animal or plant health, which would be inconsistent with the protection normally afforded to these within the European Community, the Precautionary Principle is triggered.

"Decision-makers then have to determine what action to take. They should take account of the potential consequences of taking no action, the uncertainties inherent in the scientific evaluation, and they should consult interested parties on the possible ways of managing the risk. Measures should be proportionate to the level of risk, and to the desired level of protection. They should be provisional in nature pending the availability of more reliable scientific data.

"Action is then undertaken to obtain further information enabling a more objective assessment of the risk. The measures taken to manage the risk should be maintained so long as the scientific information remains inconclusive and the risk unacceptable."

2.2 Screening

2.2.1 *The Handbook* defines a list of 'screening categories' to provide a rigorous and transparent approach to determining which aspects of the plan could potentially result in significant (adverse) effects. These are listed in Table 2.2, where green indicates that the proposal can be screened-out, orange denotes proposals which may have a significant effect in combination and require further analysis, and red specifies proposals likely to have a significant effect. The colour-coded categories provide the means of recording the results of the assessment in such a way that important issues are identified whilst proposals that have no effect are screened out.

Table 2.2: Screening categories (Source: Tyldesley & Chapman, 2013)

Cat.	Description
A	General statement of policy / aspiration
B	Policy listing general criteria for testing the acceptability / sustainability of proposals
C	Proposal referred to but not proposed by the plan
D	Environmental protection / site safeguarding policy
E	Policy/proposal steers change in such a way as to protect European sites from adverse effects
F	Policy that cannot lead to development or other change
G	Policy/proposal that could not have any conceivable effect on a European site
H	Policy/proposal the (actual or theoretical) effects of which cannot undermine the conservation objectives (either alone or in combination with other aspects of this or any other plan/project)
I	Policy/proposal with a likely significant effect on a European site alone
J	Policy/proposal with an effect on a site but not likely to be significant alone; check for likely significant effects in combination
K	Policy/proposal not likely to have a significant effect either alone or in combination (after the in combination test)
L	Policy/proposal likely to have a significant effect in combination (after the in combination test)

2.2.2 All policies and potential new development allocations being proposed for inclusion in the Local Plan were screened for likely significant effects on European sites. Chapter 3 defines

which European sites are considered during the assessment, together with their qualifying features and conservation objectives, and Chapter 4 provides baseline information about the sites. The ways in which each site might be significantly affected by the Local Plan are described in Chapter 5. The screening assessment (see Appendix I) concludes that the majority of proposed policies are unlikely to significantly affect a European site, however, those which propose certain sites for development may do and these form the focus of the assessment. Allocations which are retained from the DSP Plan (adopted June 2015) have already undergone HRA during preparation of that plan are not considered again in the current HRA.

2.3 Appropriate Assessment

2.3.1 The purpose of the Appropriate Assessment stage is to further analyse likely significant effects identified during the screening stage, as well as those effects which were uncertain or not well understood and taken forward for assessment in accordance with the precautionary principle. The Appropriate Assessment evaluates the implications of the plan, either alone or in combination with other plans or projects, in light of the conservation objectives of affected European sites.

2.3.2 The Appropriate Assessment stage a test of whether the plan proposals will result in significant adverse effects on site integrity which can be defined as (ODPM, 2005):

> *"The integrity of a site is the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified."*

2.4 Counteracting Measures

2.4.1 This section draws on Principle C.5 of the *HRA Handbook* (Tyldesley & Chapman, 2013) to identify different types of counteracting measure and describe how they should be considered within the HRA. There is a well-established policy and ethical approach to assessment which recognises a hierarchy of counteracting measures, which prefers avoidance of adverse effects in the first instance, then cancellation, then reduction, and finally compensatory measures where these can be adequately justified. This approach is embedded in guidance (e.g. CIEEM, 2016; DEFRA, 2012), professional standards (BS42020:2013) and the National Planning Policy Framework (para. 118; DCLG, 2012).

2.4.2 A distinction must be drawn between measures intended to avoid, cancel or reduce adverse effects on European sites (collectively referred to as mitigation measures) and those which are intended to compensate for adverse effects (compensatory measures); the latter must only be considered following application of the Imperative Reasons of Overriding Public Interest test:

- Mitigation: Avoidance measures: intended to stop or prevent effects from occurring, or to eliminate the risk of them occurring. Successful avoidance measures mean there will be no adverse effect, and hence no requirement to assess effects in combination.
- Mitigation: Cancellation measures: intended to completely neutralise adverse effects. In this context a proposal will have a potential effect, but its potentially negative

outcomes have been cancelled without residual effect, and there is no requirement to assess effects in combination.

- Mitigation: Reduction measures: intended to diminish an effect either by reducing the scale of the effect, or its likelihood of occurring, or both. Such measures can reduce the severity/likelihood of an effect to the point where it can no longer be regarded as a likely significant effect, but may result in a risk of residual effects. Residual effects need to be considered for their potential to lead to cumulative or in combination effects.
- Compensatory measures: intended to offset the harm to the integrity of a European site that would occur as a result of a plan or project. They are considered only after having established that the harm to the site itself cannot be further reduced by mitigation or alternative solutions, and are the measures required to ensure that the overall coherence of Natura 2000 is protected.

2.4.3 Mitigation measures proposed by the plan maker must be incorporated into the plan so that they are inseparable parts of it and are guaranteed to be delivered. Mitigation measures of this kind are referred to as '*incorporated mitigation measures*'. Where they are effective, reliable, timely, guaranteed and of sufficient duration they should be taken into account throughout the HRA process, including the screening stage. A competent authority can impose '*additional mitigation measures*' over and above incorporated mitigation, if necessary, so as to ensure that a plan or project would not adversely affect the integrity of a European site, either alone or in combination with other plans and projects. Additional mitigation measures must be considered at the integrity test stage (Stage 2) but should not be relied upon during screening.

2.5 In Combination Effects

2.5.1 Other plans and projects being prepared or implemented in the area may have the potential to cause negative effects on European sites. These effects may act in combination with the effects of the Local Plan, possibly leading an insignificant effect to become significant. It is therefore important to consider which other plans and projects could generate similar effects as development within Fareham borough, at the same European sites, and which may act in-combination.

2.5.2 The plans and projects listed below were identified at the screening stage for consideration during in combination assessment:

- Strategic development at Boorley Green, Eastleigh borough
- Strategic development at West of Waterlooville, Havant borough
- Strategic development at Tipner and Horsea Island, Portsmouth
- Strategic development at North of Whiteley, Winchester district
- Eastleigh Borough Adopted Local Plan Review 2001-2011 (adopted 2006)
- Eastleigh Borough Draft Local Plan 2011-2036
- Fareham Borough Welborne Plan (adopted 2015)
- Gosport Borough Local Plan 2011 to 2029 (adopted 2015)

- The Portsmouth Plan (adopted 2012)
- Portsmouth City Draft Local Plan 2014-2034
- Winchester District Local Plan Part 1 - Joint Core Strategy (adopted 2013)
- Winchester District Local Plan Part 2 – Development Management and Site Allocations (adopted 2013)
- North Solent Shoreline Management Plan (2010)
- Hampshire Local Transport Plan (2011-2031)
- Joint Hampshire Minerals and Waste Plan (adopted 2013) (includes Portsmouth, Southampton, New Forest National Park and South Downs National Park)

2.5.3 In combination effects are considered in Chapter 5.

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3 European Sites

3.1 Scope of the Assessment

3.1.1 European sites considered within the scope of this assessment include all those falling partially within or close to Fareham borough. Additionally, there may be activities occurring as a result of development within the borough, which could take place outside of the borough boundaries, possibly affecting European sites further afield.

3.1.2 Acknowledging that the Local Plan is not directly connected with or necessary to management of the sites for nature conservation, the HRA considers the following European sites for likely significant or adverse effects on integrity; see Figure 3.1:

- Butser Hill SAC
- Solent & Isle of Wight Lagoons SAC
- The New Forest SAC
- Portsmouth Harbour SPA
- Solent & Southampton Water SPA
- Chichester & Langstone Harbours Ramsar
- Solent & Southampton Water Ramsar
- River Itchen SAC
- Solent Maritime SAC
- Chichester & Langstone Harbours SPA
- Solent & Dorset Coast pSPA
- The New Forest SPA
- Portsmouth Harbour Ramsar
- The New Forest Ramsar

3.1.3 These European sites have been designated to conserve a wide variety of habitats, along with a suite of species typical to each. Table 3.1 summarises the qualifying features of each site for ease of reference.

3.1.4 Emer Bog SAC is located c14.7km north-west of Fareham borough and is designated for its transition mire and quaking bog habitat. Its condition is most vulnerable to local changes in water levels and input of agricultural nutrients from neighbouring land[2]; development in Fareham borough is unlikely to influence either of these factors, and the site is not considered further.

[2] For more information refer to the following hyperlinks:
http://www.sssi.naturalengland.org.uk/special/sssi/vam/VAM%201003510.pdf
http://jncc.defra.gov.uk/ProtectedSites/SACselection/n2kforms/UK0030147.pdf

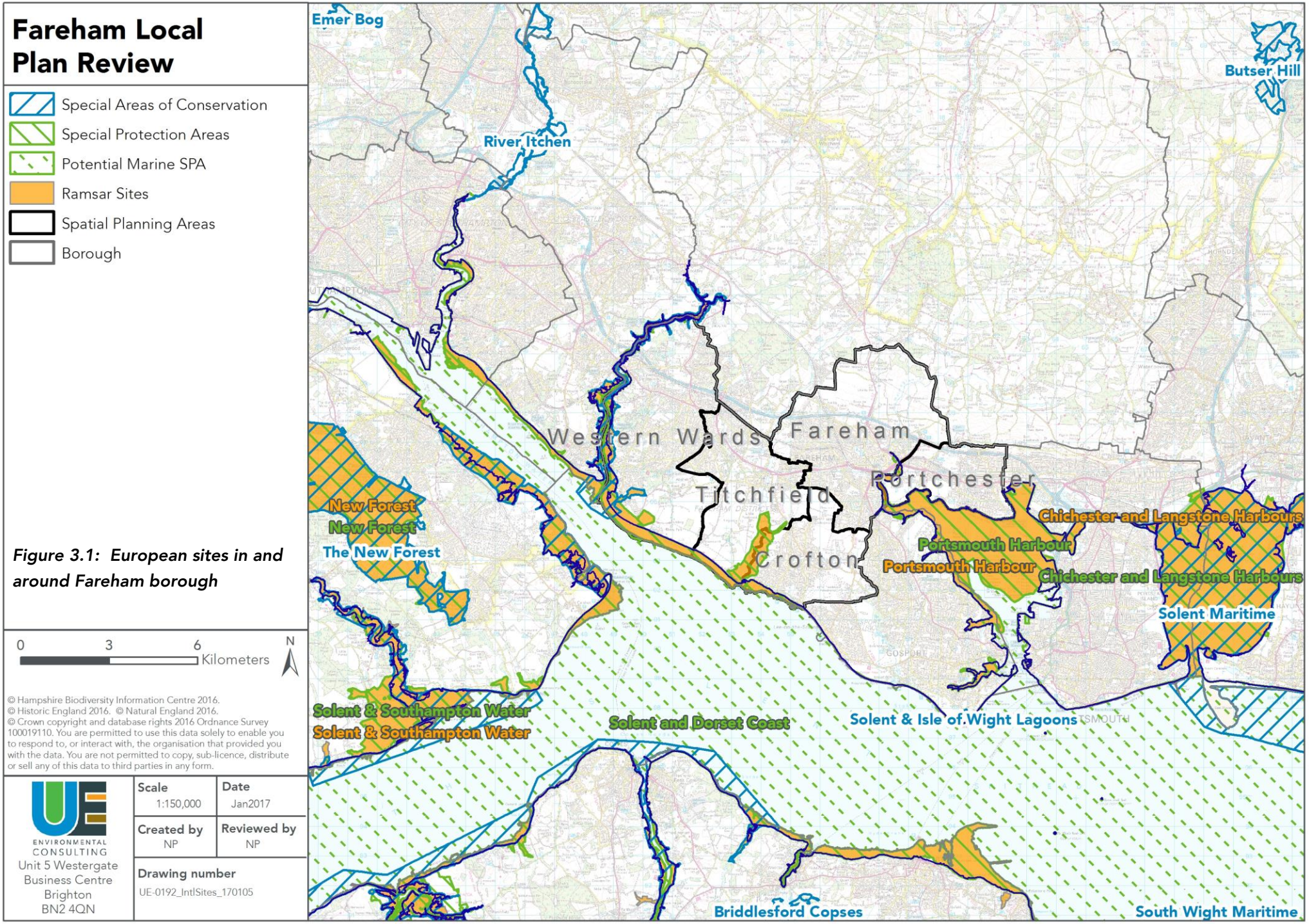


Figure 3.1: European sites in and around Fareham borough

Table 3.1: European site qualifying features

Solent & Southampton Water SPA	Solent & Soton Water Ramsar	Chichester & Langstone SPA	Chichester & Langstone Ramsar
Breeding - Little Tern *Sterna albifrons* - Sandwich Tern *Sterna sandvicensis* - Common Tern *Sterna hirundo* - Mediterranean Gull *Larus melanocephalus* - Roseate Tern *Sterna dougallii* Overwintering - Black-tailed Godwit *Limosa limosa islandica* - Dark-bellied Brent Goose *Branta bernicla bernicla* - Ringed Plover *Charadrius hiaticula* - Teal *Anas crecca* Bird Assemblage - Over winter the area regularly supports 51,361 individual waterfowl (5 year peak mean 1998)	Criterion 1 - Several outstanding wetland habitat types, including unusual double tidal flow, a major sheltered channel, saline lagoons, saltmarshes, estuaries, intertidal flats, shallow coastal waters, grazing marshes, reedbeds, coastal woodland and rocky boulder reefs Criterion 2 - Nationally rare species assemblage Criterion 5 - Winter assemblage of 51,343 waterfowl (5 year peak mean 02/03) Criterion 6 Breeding - Sandwich Tern *Sterna sandvicensis* - Common Tern *Sterna hiruno* - Little Tern *Sterna albifrons* - Roseate Tern *Sterna dougallii* Overwintering - Black-tailed Godwit *Limosa limosa islandica* - Dark-bellied Brent Goose *Branta bernicla bernicla* - Teal *Anas crecca* On passage - Ringed Plover *Charadrius hiaticula*	Breeding - Little Tern *Sterna albifrons* - Common Tern *Sterna hirundo* - Sandwich Tern *Sterna sandvicensis* Overwintering - Bar-tailed Godwit *Limosa lapponica* - Pintail *Anas acuta* - Shoveler *Anas clypeata* - Eurasian Teal *Anas crecca* - Wigeon *Anas penelope* - Turnstone *Arenaria interpres* - Dark-bellied Brent Goose *Branta bernicla bernicla* - Sanderling *Calidris alba* - Dunlin *Calidris alpina alpina* - Ringed Plover *Charadrius hiaticula* - Red-breasted Merganser *Mergus serrator* - Eurasian Curlew *Numenius arquata* - Grey Plover *Pluvialis squatarola* - Shelduck *Tadorna tadorna* - Redshank *Tringa totanus* Bird Assemblage - Over winter the area regularly supports 93,230 individual waterfowl (5yr peak mean 1998)	Criterion 1 - Two outstanding estuarine basins, the site includes intertidal mudflats, saltmarsh, sand and shingle spits and sand dunes Criterion 5 - Winter assemblage of 76,480 waterfowl (5 year peak mean 1998/99 - 2002/03) Criterion 6 Breeding - Little Tern *Sterna albifrons albifrons* Overwintering - Dark-bellied Brent Goose *Branta bernicla bernicla* - Dunlin *Calidris alpina alpina* - Grey Plover *Pluvialis squatarola* - Common Shelduck *Tadorna tadorna* On passage - Ringed Plover *Charadrius hiaticula* - Black-tailed Godwit *Limosa limosa islandica* - Common Redshank *Tringa totanus totanus*

Portsmouth Harbour SPA	Portsmouth Harbour Ramsar	River Itchen SAC	Solent Maritime SAC
Overwintering - Dark-bellied Brent Goose *Branta bernicla bernicla* - Dunlin *Calidris alpina alpina* - Black-tailed Godwit *Limosa limosa islandica* - Red-breasted Merganser *Mergus serrator*	Criterion 3 *- Species assemblage of importance to maintaining biogeographic biodiversity* Criterion 6 Overwintering - Dark-bellied Brent Goose *Branta bernicla bernicla*	Annex I Habitat - Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation Annex II Species - White-clawed (or Atlantic stream) Crayfish *Austropotamobius pallipes* - Southern damselfly *Coenagrion mercuriale* - Bullhead *Cottus gobio* - Brook Lamprey *Lampetra planeri* - Otter *Lutra lutra* - Atlantic Salmon *Salmo salar.*	Annex I Habitat - Estuaries - *Spartina* swards (*Spartinion maritimae*) - Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) - Sandbanks - slightly covered by sea water all the time - Mudflats and sandflats not submerged at low tide - Annual vegetation drift lines - Perennial vegetation of stony banks - *Salicornia* and other annuals colonising mud and sand - Shifting white dunes with *Ammophila arenaria* - Coastal lagoons***** Annex II Species - Desmoulin's whorl snail *Vertigo moulinsiana*
The New Forest SPA	**The New Forest Ramsar**	**The New Forest SAC**	**Butser Hill SAC**
Breeding - Nightjar *Caprimulgus europaeus* - Woodlark *Lullula arborea* - Honey Buzzard *Pernis apivorus* - Dartford Warbler *Sylvia undata* Overwintering - Hen Harrier *Circus cyaneus*	Criterion 1 Valley mires and wet heaths are found throughout the site and are of outstanding scientific interest. The mires and heaths are within catchments whose uncultivated and undeveloped state buffer the mires against adverse ecological change. This is the	Annex I Habitat - Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*) - Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or of the *Isoëto-*	Annex I Habitat - Semi-natural dry grasslands and scrubland facies on calacareous substrates (F*estuco-Brometalia)* - *Taxus baccata* woods of the British Isles *****

Solent and Dorset Coast pSPA			Solent and IoW Lagoons SAC
<u>Breeding</u> - Sandwich tern *Sterna sandvicensis* - Common tern *Sterna Hirundo* - Little tern *Sterna albifrons*	largest concentration of intact valley mires of their type in Britain <u>Criterion 2</u> Diverse assemblage of wetland plants and animals including several nationally rare species. Seven species of nationally rare plant are found on the site, as are at least 65 British Red Data Book species of invertebrate <u>Criterion 3</u> The mire habitats are of high ecological quality and diversity and have undisturbed transition zones. The invertebrate fauna of the site is important due to the concentration of rare and scare wetland species. The whole site complex, with its examples of semi-natural habitats is essential to the genetic and ecological diversity of southern England	*Nanojuncetea* - Northern Atlantic wet heaths with *Erica tetralix* - European dry heaths - *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) - Depressions on peat substrates of the *Rhynchosporion* - Atlantic acidophilous beech forests with *Ilex* and sometimes also *Taxus* in the shrublayer (*Quercion robori-petraeae* or *Ilici-Fagenion*) - *Asperulo-Fagetum* beech forests - Old acidophilous oak woods with *Quercus robur* on sandy plains - Bog woodland ***** - Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) ***** - Transition mires and quaking bogs. <u>Annex II Species</u> - Southern damselfly *Coenagrion mercuriale* - Stag beetle *Lucanus cervus* - Great crested newt *Triturus cristatus*	<u>Annex I Habitat</u> - Coastal lagoons*****

* Denotes priority feature

3.2 Special Areas of Conservation

3.2.1 Special Areas of Conservation (SAC) are strictly protected sites designated under the EC Habitats Directive. Article 3 of the Habitats Directive requires the establishment of a European network of important high-quality conservation sites that will make a significant contribution to conserving the 189 habitat types and 788 species identified in Annexes I and II of the Directive (as amended). The listed habitat types and species are those considered to be most in need of conservation at a European level (excluding birds which are conserved by SPA and Ramsar).

Butser Hill SAC

3.2.2 The Butser Hill SAC covers an area of 238ha north-east of Fareham. The SAC was selected for its representation of two Annex 1 habitat types (Semi-natural dry grasslands and scrubland facies on calcareous substrates *Festuco-Brometalia* and Yew *Taxus baccata* woods of the British Isles which are a priority feature). These vegetation communities are described in Chapter 4.

River Itchen SAC

3.2.3 The River Itchen SAC covers an area of 304ha north-west of Fareham. The Itchen is a classic example of a sub-type 1 chalk river, which is dominated throughout by aquatic *Ranunculus spp.* The Itchen also supports a number of Annex II species, of which Southern Damselfly and Bullhead are among the primary reasons for the selection of this site as an SAC. These are described in Chapter 4 of this report and comprise:

- White-clawed (or Atlantic stream) Crayfish *Austropotamobius pallipes*
- Southern Damselfly *Coenagrion mercuriale*
- Bullhead *Cottus gobio*
- Brook Lamprey *Lampetra planeri*
- Otter *Lutra lutra*
- Atlantic Salmon *Salmo salar*.

Solent and Isle of Wight Lagoons SAC

3.2.4 The Solent and Isle of Wight Lagoons SAC covers an area of 38ha over several sites in the Keyhaven – Pennington area, at Farlington Marshes, Bembridge Harbour and Gilkicker (near Gosport). It encompasses a series of Coastal lagoons, including percolation, isolated and sluiced lagoons, which are described in Chapter 4.

Solent Maritime SAC

3.2.5 The Solent Maritime SAC covers an area of 11,243ha on both sides of the Solent and was selected for a total of three Annex 1 habitat types. A further seven habitat types were subsequently identified as being present as qualifying features:

- Estuaries

- *Spartina* swards
- Atlantic salt meadows
- Sandbanks which are slightly covered by water at all times
- Mudflats and sandbanks not covered by water at all times
- Coastal lagoons (Priority feature)
- Annual vegetation of drift lines
- Perennial vegetation of stony banks
- *Salicornia* and other annuals colonising mud and sand
- Shifting dunes along the shoreline with *Ammophila arenaria*

3.2.6 The site also supports Desmoulin's Whorl Snail *Vertigo moulinsiana* which is an Annex II species listed as a qualifying feature of the SAC.

The New Forest SAC

3.2.7 The New Forest SAC is a complex habitat mosaic over 29,214ha which encompasses a wide range of Annex I habitats which are qualifying features for its selection as an SAC. These are:

- Oligotrophic waters containing very few minerals of sandy plains (*Littorelletalia uniflorae*)
- Oligotrophic to mesotrophic standing waters with vegetation of the *Littorelletea uniflorae* and/or of the *Isoëto-Nanojuncetea*
- Northern Atlantic wet heaths with *Erica tetralix*
- European dry heaths
- *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*)
- Depressions on peat substrates of the *Rhynchosporion*
- Atlantic acidophilous beech forests with *Ilex* and sometimes also *Taxus* in the shrublayer (*Quercion robori-petraeae* or *Ilici-Fagenion*)
- *Asperulo-Fagetum* beech forests
- Old acidophilous oak woods with *Quercus robur* on sandy plains
- Bog woodland (Priority habitat)
- Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) (Priority habitat)

3.2.8 The SAC also supports Annex I habitats Transition mires and quaking bogs and Alkaline fens, and a number of species of conservation importance; those listed as qualifying species are the Southern Damselfly, Stag Beetle *Lucanus cervus* and Great Crested Newt *Triturus cristatus*.

3.3 Special Protection Areas

3.3.1 In 1979 the European Community adopted the Council Directive on the Conservation of Wild Birds (79/409/EEC), usually referred to as the Birds Directive. It provides for the protection, management and control of all species of naturally occurring wild birds in the European territory of Member States. In particular it requires Member States to identify areas to be given special protection for the rare or vulnerable species listed in Annex I (Article 4.1) and for regularly occurring migratory species (Article 4.2) and for the protection of wetlands, especially wetlands of international importance. These areas are known as Special Protection Areas (SPA). The following accounts are from JNCC[3].

Chichester and Langstone Harbours SPA

3.3.2 Chichester and Langstone Harbours comprise 5,811ha located in east Hampshire and West Sussex. They are large, sheltered estuarine basins comprising extensive sand- and mud-flats exposed at low tide. The two harbours are joined by a stretch of water that separates Hayling Island from the mainland. Tidal channels drain the basin and penetrate far inland. The mud-flats are rich in invertebrates and also support extensive beds of algae, especially *Enteromorpha* species, and eelgrasses *Zostera* spp. The estuarine basins contain a wide range of coastal habitats supporting important plant and animal communities. The site is of particular significance for waterbirds, especially in migration periods and over winter. It also supports important colonies of breeding terns.

3.3.3 The Chichester and Langstone Harbours SPA qualifies under Article 4.1 of the Birds Directive by supporting breeding populations of European importance of the following species listed on Annex I of the Directive:

- Little Tern *Sterna albifrons*, 100 pairs representing up to 4.2% of the breeding population in Great Britain (5 year mean, 1992-1996)
- Common Tern *Sterna hirundo*, 33 pairs representing up to 0.3% of the breeding population in Great Britain (5 year mean, 1992-1996)
- Sandwich Tern *Sterna sandvicensis*, 31 pairs representing up to 0.2% of the breeding population in Great Britain (5 year mean, 1993-1997)

3.3.4 It also qualifies under Article 4.1 by supporting populations of European importance of the following overwintering Annex 1 species:

- Bar-tailed Godwit *Limosa lapponica*, 1,692 individuals representing up to 3.2% of the wintering population in Great Britain (5 year peak mean 1991/2 - 1995/6)

3.3.5 The Chichester and Langstone Harbours SPA qualifies under Article 4.2 of the Directive by supporting overwintering populations of European importance of the following regularly occurring migratory species:

[3] Summary data for UK SPAs: Spreadsheet of UK SPA information as contained within the Natura 2000 standard data forms submitted to the European Union [October 2016 version, accessed Jan 2017]: http://jncc.defra.gov.uk/page-1409

- Dark-bellied Brent Goose *Branta bernicla bernicla*, 17,119 individuals representing up to 5.7% of the wintering Western Siberia/Western Europe population (5 year peak mean 1991/2 - 1995/6)
- Dunlin *Calidris alpina alpina*, 44,294 individuals representing up to 3.2% of the wintering Northern Siberia/Europe/Western Africa population (5 year peak mean 1991/2 - 1995/6)
- Grey Plover *Pluvialis squatarola*, 3,825 individuals representing up to 2.3% of the wintering Eastern Atlantic population (5 year peak mean 1991/2 - 1995/6)
- Redshank *Tringa totanus*, 1,788 individuals representing up to 1.0% of the wintering Eastern Atlantic population (5 year peak mean 1991/2 - 1995/6)
- Ringed Plover *Charadrius hiaticula*, 846 individuals representing up to 3.0% of the wintering population in Great Britain (5 year peak mean 1991/2 - 1995/6)
- Eurasian wigeon *Anas penelope* 2,055 individuals, representing 0.7% of the population in Great Britain (5 year peak mean 1991/92-1995/96)
- Pintail *Anas acuta* 330 individuals, representing 1.2% of the population in Great Britain (5 year peak mean 1991/92-1995/96)
- Shoveler *Anas clypeata* 100 individuals, representing 1.0% of the population in Great Britain (5 year peak mean 1991/92-1995/96)
- Eurasian Teal *Anas crecca* 1,824 individuals, representing 0.5% of the population (5 year peak mean 1991/92-1995/96)
- Turnstone *Arenaria interprens* 430 individuals, representing 0.7% of the population in Great Britain (5 year peak mean 1991/92-1995/96)
- Sanderling *Calidris alba* 236 individuals, representing 0.2% of the population (5 year peak mean 1991/92-1995/96)
- Shelduck *Tadorna tadorna* 2,410 individuals, representing 3.3% of the population in Great Britain (5 year peak mean 1991/92-1995/96)
- Curlew *Numenius arquata* 1,861 individuals, representing 1.6% of the population in Great Britain (5 year peak mean 1991/92-1995/96)
- Red-breasted Merganser *Mergus serrator* 297 individuals, representing 3% of the population in Great Britain (5 year peak mean 1991/92-1995/96)

3.3.6 Over winter the area regularly supports: 93,230 waterfowl (5 year peak mean 1991/92-1995/96) qualifying under Article 4.2 of the Birds Directive, including: Dark-bellied Brent Goose, Shelduck, Wigeon, Teal, Pintail, Shoveler, Red-breasted Merganser, Ringed Plover, Grey Plover, Sanderling, Dunlin, Bar-tailed Godwit, Curlew, Redshank, Turnstone.

Portsmouth Harbour SPA

3.3.7 The Portsmouth Harbour SPA, an area of 1,249ha, is a large industrialised estuary and includes one of the four largest expanses of mud-flats and tidal creeks on the south coast of Britain. The mud-flats support large beds of Narrow-leaved Eelgrass *Zostera angustifolia* and Dwarf Eelgrass *Z. noltii*, extensive green algae beds, mainly *Enteromorpha* species, and Sea Lettuce *Ulva*

lactuca. Portsmouth Harbour has only a narrow connection to the sea via the Solent, and receives comparatively little fresh water, thus giving it an unusual hydrology. The site supports important numbers of wintering Dark-bellied Brent Goose, which feed also in surrounding agricultural outside of the designated site boundaries.

3.3.8 The Portsmouth Harbour SPA qualifies under Article 4.2 of the Birds Directive by supporting wintering populations of European importance of the following regularly occurring migratory species:

- Dark-bellied Brent Goose *Branta bernicla bernicla*, 2,847 individuals representing at least 0.9% of the W Siberian/W European population (5 year peak mean 1991/92-1995/96)
- Dunlin *Calidris alpina alpina*, (Northern Siberia/Europe/Western Africa) 5,123 individuals representing 1% of the population in Great Britain (5 year peak mean 1991/92-1995/96)
- Black-tailed Godwit *Limosa limosa islandica* (Iceland-breeding) 31 individuals, representing 0.4% of the population in Great Britain (5 year peak mean 1991/92-1995/96)
- Red-breasted Merganser *Mergus serrator* (North-western/Central Europe) 87 individuals, representing 0.9% of the population in Great Britain (5 year peak mean 1991/92-1995/96)

Solent and Dorset Coast pSPA

3.3.9 In early 2016 Natural England proposed a new marine designation for three species of bird; common, Sandwich and little tern *Sterna hirundo, S. sandvicensis* and *S. albifrons*. The proposed site is located on the south coast within the English Channel, comprising approximately 255.2 square nautical miles (SNM) and extending from the Isle of Purbeck in the West to Bognor Regis in the East, following the coastline on either side to the Isle of Wight and into Southampton Water. The proposed site is intended to protect important foraging areas at sea used by breeding colonies in nearby SPA.

3.3.10 There are already four SPA within the Greater Solent that are designated for breeding terns. These are Chichester & Langstone Harbours SPA (for Sandwich and little tern), the Solent and Southampton Water SPA (for common, Sandwich and little tern) and Pagham Harbour SPA (little tern). The fourth associated SPA lies within Poole Harbour (common tern and Sandwich tern). The new SPA covers the area that the breeding terns use for foraging during April to September. Whilst management measures are already in place in this foraging area due to the existing SPA, the classification of this new site will provide clarity to stakeholders about the areas the terns forage within and the species that require consideration.

3.3.11 The recommendations developed so far propose that the new marine designation will include the sub-tidal areas not currently encompassed in the existing SPAs. It will thus have its landward boundary at mean low water (MLW) where it abuts any existing SPA where terns are already a feature. Elsewhere the landward boundary will be mean high water (MHW) so as to afford the birds protection within the intertidal areas; for example at Portsmouth Harbour. However, the landward boundary of the pSPA extends to MHW within Pagham Harbour and hence overlaps with the existing SPA (Natural England, 2016; p.20). This is because the easternmost extremity of the pSPA is determined by the modelled usage of Sandwich terns

foraging from Chichester & Langstone Harbours SPA, and Sandwich terns are not a qualifying feature of Pagham Harbour SPA.

Solent and Southampton Water SPA

3.3.12 The Solent and Southampton Water SPA extends over 5,401ha from Hurst Spit to Hill Head along the south coast of Hampshire, and from Yarmouth to Whitecliff Bay along the north coast of the Isle of Wight. The site comprises a series of estuaries and harbours with extensive mud-flats and saltmarshes together with adjacent coastal habitats including saline lagoons, shingle beaches, reedbeds, damp woodland and grazing marsh. The mud-flats support beds of *Enteromorpha* spp. and *Zostera* spp. and have a rich invertebrate fauna that forms the food resource for the estuarine birds.

3.3.13 In summer, the SPA is of importance for breeding seabirds, including gulls and four species of tern. In winter, the SPA holds a large and diverse assemblage of waterbirds, including geese, ducks and waders. Dark-bellied Brent Goose *Branta bernicla bernicla* also feed in surrounding areas of agricultural land outside the designated site boundaries.

3.3.14 The Solent and Southampton Water Special Protection Area (SPA) qualifies under Article 4.1 of the Birds Directive by supporting breeding populations of European importance of the following species listed on Annex 1 of the Directive:

- Mediterranean Gull *Larus melanocephalus* 2 pairs representing at least 15.4% of the breeding population in Great Britain (5 year peak mean, 1994-1998)
- Little Tern *Sterna albifrons*, 49 pairs representing at least 2.0% of the breeding population in Great Britain (5 year peak mean, 1993-1997)
- Roseate Tern *Sterna dougalli* 2 pairs representing at least 3.1% of the breeding population in Great Britain (5 year peak mean, 1993-1997)
- Common Tern *Sterna hirundo*, 267 pairs representing at least 2.2% of the breeding population in Great Britain (5 year peak mean, 1993-1997)
- Sandwich Tern *Sterna sandvicensis*, 231 pairs representing at least 1.7% of the breeding population in Great Britain (5 year peak mean, 1993-1997)

3.3.15 The site qualifies under Article 4.2 of the Birds Directive by supporting overwintering populations of European importance of the following regularly occurring migratory species:

- Teal *Anas crecca* 4,400 individuals representing at least 1.1% of the wintering North-western Europe population (5 year peak mean, 1992/3-1996/7)
- Dark-bellied Brent Goose *Branta bernicla bernicla* 7,506 individuals representing at least 2.5% of the wintering Western Siberia/Western Europe population (5 year peak mean, 1992/3-1996/7)
- Ringed Plover *Charadrius hiaticula* 552 individuals representing at least 1.2% of the wintering Europe/Northern Africa-wintering population (5 year peak mean, 1992/3-1996/7)

- Black-tailed Godwit *Limosa limosa islandica* 1,125 individuals representing at least 1.7% of the wintering Icelandic-breeding population (5 year peak mean, 1992/3-1996/7)

3.3.16 The SPA also qualifies under Article 4.2 of the Birds Directive due to supporting an internationally important assemblage of birds. Over winter the area regularly supports: 51,361 waterfowl (5 year peak mean 1991/92-1995/96) which include: Dark-bellied Brent Goose *Branta bernicla bernicla*, Teal *Anas crecca*, Ringed Plover *Charadrius hiaticula*, Black-tailed Godwit *Limosa limosa islandica*.

The New Forest SPA

3.3.17 The New Forest SPA covers an area of 27,969ha located in southern Hampshire, west of the Solent. It comprises a complex mosaic of habitats overlying mainly nutrient-poor soils over plateau gravels. The major components are the extensive wet and dry heaths with their rich valley mires and associated wet and dry grasslands, the ancient pasture woodlands and inclosure woodlands, the network of clean rivers and streams, and frequent permanent and temporary ponds.

3.3.18 The New Forest SPA qualifies under Article 4.1 of the Birds Directive by supporting breeding populations of European importance of the following species listed on Annex I of the Directive:

- Nightjar *Caprimulgus europaeus*, 300 pairs representing at least 8.8% of the breeding population in Great Britain (count as at 1991)
- Woodlark *Lullula arborea*, 177 pairs representing at least 29.5% of the breeding population in Great Britain (no count period specified)
- Honey Buzzard *Pernis apivorus*, 2 pairs representing at least 12.5% of the breeding population in Great Britain (no count period specified)
- Dartford Warbler *Sylvia undata*, 538 pairs representing at least 33.6% of the breeding population in Great Britain (no count period specified)

3.3.19 It also qualifies under Article 4.1 by supporting the following overwintering Annex 1 species:

- Hen Harrier *Circus cyaneus*, 15 individuals representing at least 2.0% of the wintering population in Great Britain (no count period specified)

3.3.20 The site qualifies under Article 4.2 of the Birds Directive by supporting breeding populations of European importance of the following regularly occurring migratory species:

- Hobby *Falco subbuteo*, 25 pairs representing at least 5.0% of the population in Great Britain (no count period specified)
- Wood warbler *Phylloscopus sibilatrix*, unspecified pairs representing at least 2.0% of the population in Great Britain (no count period specified)

3.4 Ramsar Sites

3.4.1 Ramsar sites are wetlands of international importance designated under the Ramsar Convention. In the UK, the first Ramsar sites were designated in 1976. Since then, many more

have been designated. The initial emphasis was on selecting sites of importance to waterbirds within the UK, and consequently many Ramsar sites are also Special Protection Areas (SPAs) classified under the Birds Directive as is the case with the sites which are being considered by this assessment.

Chichester and Langstone Harbours Ramsar

3.4.2 The Chichester and Langstone Harbours Ramsar site qualifies under the following Ramsar Convention criteria:

- Criterion 1: The site comprises of two large estuarine basins linked by the channel which divides Hayling Island from the main Hampshire coastline. The site includes intertidal mudflats, saltmarsh, sand and shingle spits and sand dunes.
- Criterion 5: The site supports an internationally important assemblage of species; 76,480 waterfowl over winter (5 year peak mean 1998/99-2002/2003).
- Criterion 6: The site supports species or populations occurring at international levels of importance comprising the following species.

Breeding (identified subsequent to designation)

- Little Tern *Sterna albifrons albifrons* 130 apparently occupied nests, representing an average of 1.1% of the breeding population (Seabird 2000 Census)

On passage

- Ringed Plover *Charadrius hiaticula*, 853 individuals representing up to 1.1% of the wintering Europe/Northern Africa population (5 year peak mean 1998/9 - 2002/3)
- Black-tailed Godwit *Limosa limosa islandica* 906 individuals, representing an average of 2.5% of the Iceland/W. Europe population (5 year peak mean 1998/9 - 2002/3)
- Common Redshank *Tringa totanus totanus* 2,577 individuals, representing an average of 1% of the population (5 year peak mean 1998/9-2002/3)

Overwintering

- Dark–bellied Brent Goose *Branta bernicla bernicla* 12,987 individuals, representing an average of 6% of the population (5 year peak mean 1998/9-2002/3)
- Common Shelduck *Tadorna tadorna* 1,468 individuals, representing an average of 1.8% of the GB population (5 year peak mean 1998/9-2002/3)
- Grey Plover *Pluvialis squatarola* 3,043 individuals, representing an average of 1.2% of the E Atlantic/W. Africa population (5 year peak mean 1998/9-2002/3)
- Dunlin *Calidris alpina alpina* 33,436 individuals, representing an average of 2.5% of the W Siberia/W Europe population (5 year peak mean 1998/9-2002/3)

Portsmouth Harbour Ramsar

3.4.3 The Portsmouth Harbour Ramsar site qualifies under the following Ramsar Convention criteria:

- **Criterion 3:** The site supports a species assemblage of importance to maintaining biogeographic biodiversity. The intertidal mudflat areas possess extensive beds of eelgrass *Zostera angustifolia* and *Zostera noltei* which support the grazing Dark-bellied Brent Goose populations. The mud-snail *Hydrobia ulvae* is found at extremely high densities, which helps to support the wading bird interest of the site. Common cord-grass *Spartina anglica* dominates large areas of the saltmarsh and there are also extensive areas of green algae *Enteromorpha* spp. and sea lettuce *Ulva lactuca*. More locally the saltmarsh is dominated by sea purslane *Halimione portulacoides* which gradates to more varied communities at the higher shore levels. The site also includes a number of saline lagoons hosting nationally important species.
- **Criterion 6:** The site supports the following overwintering species / populations occurring at international levels of importance:
    - Dark–bellied Brent Goose *Branta bernicla bernicla* 2,105 individuals, representing an average of 2.1% of the GB population (5 year peak mean 1998/9-2002/3)

Solent and Southampton Water Ramsar

3.4.4 The Solent and Southampton Water Ramsar site qualifies under the following Ramsar Convention criteria:

- **Criterion 1:** The site is one of the few major sheltered channels between a substantial island and mainland in European waters, exhibiting an unusual strong double tidal flow and has long periods of slack water at high and low tide. It includes many wetland habitats characteristic of the biogeographic region: saline lagoons, saltmarshes, estuaries, intertidal flats, shallow coastal waters, grazing marshes, reedbeds, coastal woodland and rocky boulder reefs.
- **Criterion 2:** The site supports an important assemblage of rare plants and invertebrates. At least 33 British Red Data Book invertebrates and at least eight British Red Data Book plants are represented on site.
- **Criterion 5**: The site supports an internationally important assemblage of species; 51,343 waterfowl over winter (5 year peak mean 1998/99-2002/2003).
- **Criterion 6:** The site supports species or populations occurring at international levels of importance comprising the following species.

Breeding

- Roseate Tern *Sterna dougallii* 1 apparently occupied nests, representing an average of 1.9% of the GB population (Seabird 2000 Census)
- Little Tern *Sterna albifrons* 22 apparently occupied nests, representing an average of 1.1% of the GB population (Seabird 2000 Census)
- Sandwich Tern *Sterna sandivicensis* 268 apparently occupied nests, representing an average of 2.5% of the GB population (Seabird 2000 Census)

- Common Tern *Sterna Hirundo* 192 apparently occupied nests, representing an average of 1.8% of the GB population (Seabird 2000 Census)
- Mediterranean Gull *Larus melanocephalus,* 11 apparently occupied nests, representing an average of 10.1% of the GB population (Seabird 2000 Census)
- Black-headed Gull *Larus ridibundus, 6*,911 apparently occupied nests, representing an average of 5.4% of the GB population (Seabird 2000 Census)

On passage

- Ringed Plover *Charadrius hiaticula* 397 individuals, representing an average of 1.2% of the GB population (5 year peak mean 1998/9-2002/3)

Overwintering

- Dark-bellied Brent Goose *Branta bernicla bernicla* 6,456 individuals, representing an average of 3% of the population (5 year peak mean 1998/9-2002/3)
- Teal *Anas crecca* 5,514 individuals, representing an average of 1.3% of the north western European population (5 year peak mean 1998/9-2002/3)
- Black-tailed Godwit *Limosa limosa islandica* 1,240 individuals, representing an average of 3.5% of the population (5 year peak mean 1998/9-2002/3)

The New Forest Ramsar

3.4.5 The New Forest Ramsar site qualifies under the following Ramsar Convention criteria:

- Criterion 1: Valley mires and wet heaths are found throughout the site and are of outstanding scientific interest. The mires and heaths are within catchments whose uncultivated and undeveloped state buffer the mires against adverse ecological change. This is the largest concentration of intact valley mires of their type in Britain.
- Criterion 2: The site supports a diverse assemblage of wetland plants and animals including several nationally rare species. Seven species of nationally rare plant are found on the site, as are at least 65 British Red Data Book species of invertebrate.
- Criterion 3: The mire habitats are of high ecological quality and diversity and have undisturbed transition zones. The invertebrate fauna of the site is important due to the concentration of rare and scare wetland species. The whole site complex, with its examples of semi-natural habitats is essential to the genetic and ecological diversity of southern England.

3.5 Conservation Objectives for SAC and SPA

3.5.1 The Habitats Directive requires that Member States maintain or where appropriate restore habitats and species populations of European importance to favourable conservation status. European site conservation objectives are referred to in the Habitats Regulations and Article 6(3) of the Habitats Directive. They are for use when there is a need to undertake an Appropriate Assessment under the relevant parts of the respective legislation. The conservation objectives are set for each feature (habitat or species) of an SAC/SPA. Where the

objectives are met, the site can be said to demonstrate a high degree of integrity and the site itself makes a full contribution to achieving the aims of the Habitats and Birds Directives. The conservation objectives defined by Natural England for the SACs and SPAs included within the scope of this HRA are given in Table 3.2.

3.6 Conservation Objectives for Ramsar Sites

3.6.1 Ramsar sites do not have agreed conservation objectives, but in most instances overlap with SPA site boundaries. However, it should be noted that Ramsar qualifying features can include a range of habitats and non-bird species common to SAC designations, as well as bird species and assemblages and their supporting habitats, which are common to SPAs.

3.6.2 Of the Ramsar sites around Fareham, the qualifying Ramsar Convention criteria for the Solent and Southampton Water, Portsmouth Harbour, and Chichester and Langstone Harbours sites overlap substantially with the features of their equivalent SPAs. No additional conservation objectives are defined to assess these features, and those relating to the equivalent SPAs can be used in the assessment.

3.6.3 Conversely, the Ramsar criteria for the New Forest overlap with the features of its equivalent SAC. No additional conservation objectives are defined to assess these features, and those relating to the SAC can be used in the assessment.

3.7 Condition Status

3.7.1 The conservation status of European sites is not routinely reported by Natural England, but it carries out condition monitoring of Sites of Special Scientific Interest (SSSI) at regular intervals. Although not exactly matching the boundaries of European sites, and being notified for different purposes, the condition status of a SSSI helps to give an impression of the overall ecological status of the SAC/SPA/Ramsar with which it coincides. The latest condition assessments (June 2017) of SSSIs forming part of the European sites within the scope of this assessment are illustrated on Figure 3.2.

Table 3.2: Conservation objectives for SAC and SPA

Conservation objectives for SAC (and New Forest Ramsar)
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring: *[To the extent applicable to qualifying natural habitats or qualifying species:]* ▪ The extent and distribution of qualifying natural habitats and habitats of qualifying species; ▪ The structure and function (including typical species) of qualifying natural habitats; ▪ The structure and function of the habitats of qualifying species; ▪ The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely; ▪ The population of qualifying species; and ▪ The distribution of qualifying species within the site.
Conservation objectives for SPA (and Ramsars other than New Forest)
Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring: ▪ The extent and distribution of the habitats of the qualifying features; ▪ The structure and function of the habitats of the qualifying features; ▪ The supporting processes on which the habitats of the qualifying features rely; ▪ The population of each of the qualifying features; and ▪ The distribution of the qualifying features within the site.

Fareham Local Plan Review

SSSI Units Condition

- FAVOURABLE
- UNFAVOURABLE RECOVERING
- UNFAVOURABLE NO CHANGE
- UNFAVOURABLE DECLINING
- PART DESTROYED
- DESTROYED
- NOT ASSESSED
- Special Areas of Conservation
- Special Protection Areas
- Spatial Planning Areas
- Borough

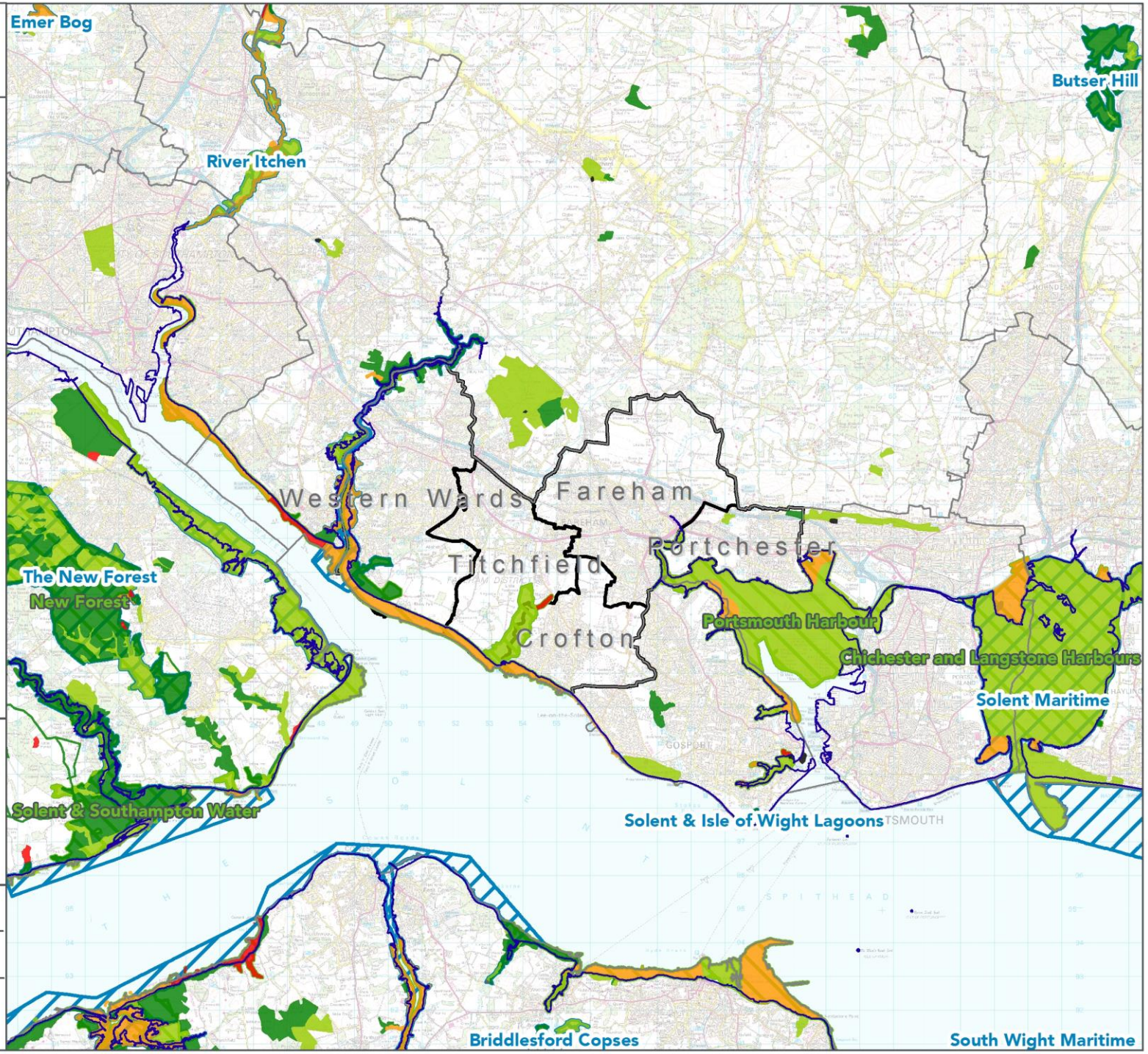


Figure 3.2: European sites and SSSI units condition assessment

0 3 6 Kilometers N

ENVIRONMENTAL CONSULTING
Unit 5 Westergate Business Centre
Brighton
BN2 4QN

Scale	Date
1:150,000	Sep2017
Created by	**Reviewed by**
NP	NP

Drawing number
UE-0192_SSSIcondition_170905

4 European Site Characterisation

4.1 SPA Bird Populations and Ecology

4.1.1 The following summaries have been adapted from the UK SPA Review[4], published by the Joint Nature Conservancy Committee (JNCC; 2001), together with a review of other available literature on the behaviour and ecology of these species[5]. Where available species accounts have been supplemented by core count data presented in the Wetlands Bird Survey (WeBS) report for 2014/15 (Frost *et al*. 2016) and earlier years.

4.1.2 The data have been obtained from four separate survey areas; Chichester Harbour, Langstone Harbour, Portsmouth Harbour and Southampton Water. These areas do not exactly correspond with the boundaries of European designated sites, but provide an insight to species population trends throughout the area. Maps of the WeBS survey areas considered as part of this report are shown in Figure 4.1 to Figure 4.4 overleaf.

Dark-bellied Brent Goose

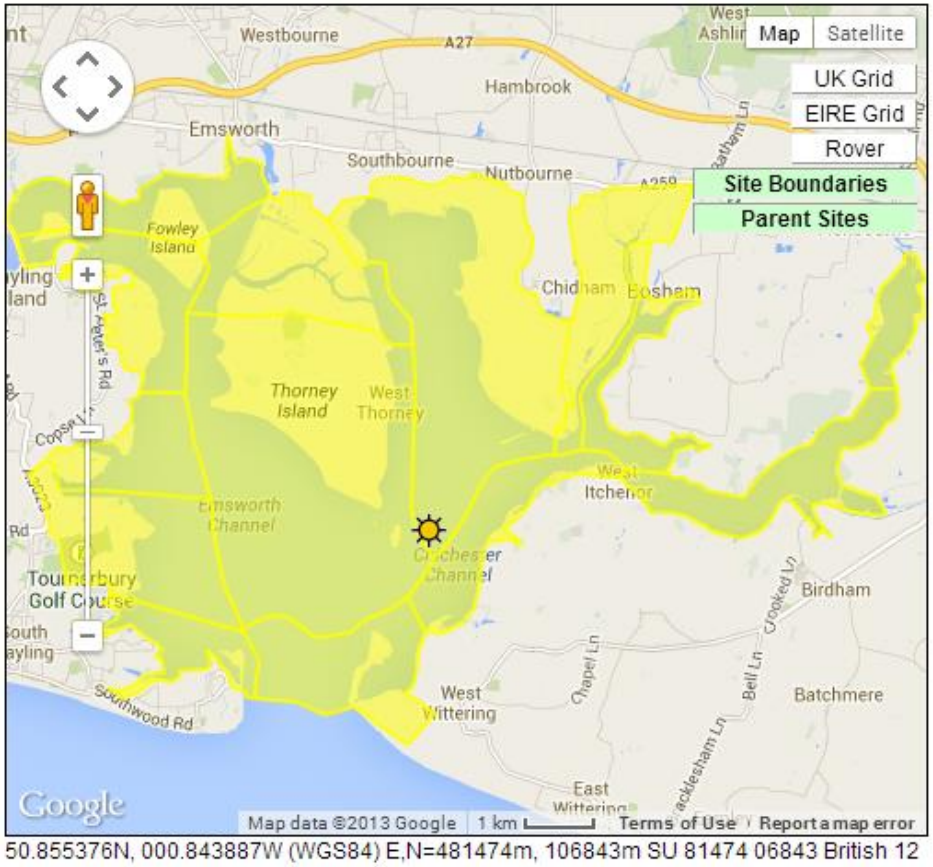
4.1.3 Brent Geese have a circumpolar distribution breeding in the extreme high Arctic in all northern countries. The Dark-bellied Brent Goose *Branta bernicla bernicla* breeds in the Russian high Arctic. The main wintering areas of Dark-bellied Brent Geese in the UK are in England, along the North Sea and Channel coasts, from The Wash south to Poole Harbour. Important concentrations are found around The Wash, along the Norfolk, Essex and north Kent coasts, and in the natural harbours of the south coast.

4.1.4 The UK population of Dark-bellied Brent Geese is estimated at 103,300 individuals representing 31% of the biogeographic population (Kirby 1995), 94% of which occur within SPA sites for which the species is a qualifying feature. The species is a vulnerable species of European conservation concern and an Amber listed Bird of Conservation Concern in the UK, due to being a species of European Concern with a localised and important non-breeding population.

4.1.5 The traditional wintering habitat is mostly shallow coasts and estuaries with extensive mudflats and intertidal areas, as Dark-bellied Brent Geese rarely occur far from the sea and feed on intertidal plants such as *Zostera, Enteromorpha* and a small range of littoral plants. In recent years the species has taken to grazing on coastal cultivated grasslands and winter cereal fields. An investigation carried out in one of the species' wintering areas (UK) found that it was most likely to forage on dry, improved grasslands that had high abundances of the grass *Lolium perenne*, were between 5 and 6 ha in area, and were at a distance of up to 1.5 km inland or 4-5 km along the coast from coastal roosting sites (IUCN 2013).

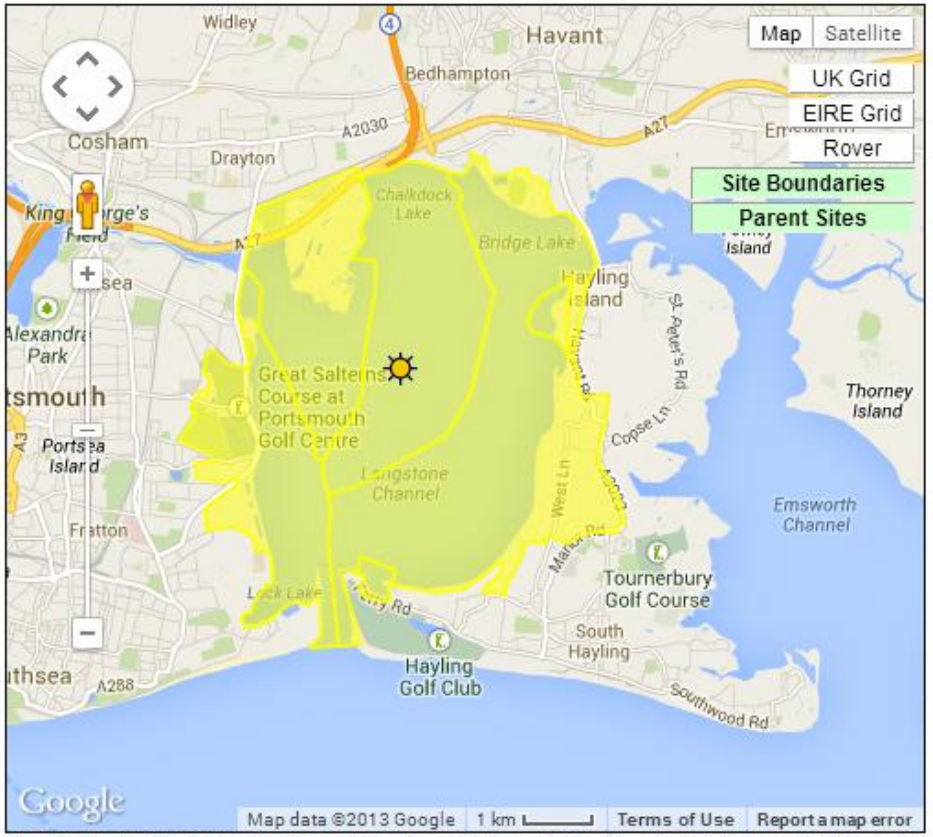
[4] http://jncc.defra.gov.uk/page-1412

[5] http://www.iucnredlist.org, http://www.bto.org/about-birds, http://www.birdlife.org/datazone/species/search



50.855376N, 000.843887W (WGS84) E,N=481474m, 106843m SU 81474 06843 British 12

Figure 4.1: Chichester Harbour WeBS Survey Area



50.861878N, 000.921822W (WGS84) E,N=475977m, 107483m SU 75977 07483 British 12

Figure 4.2: Langstone Harbour WeBS Survey Area

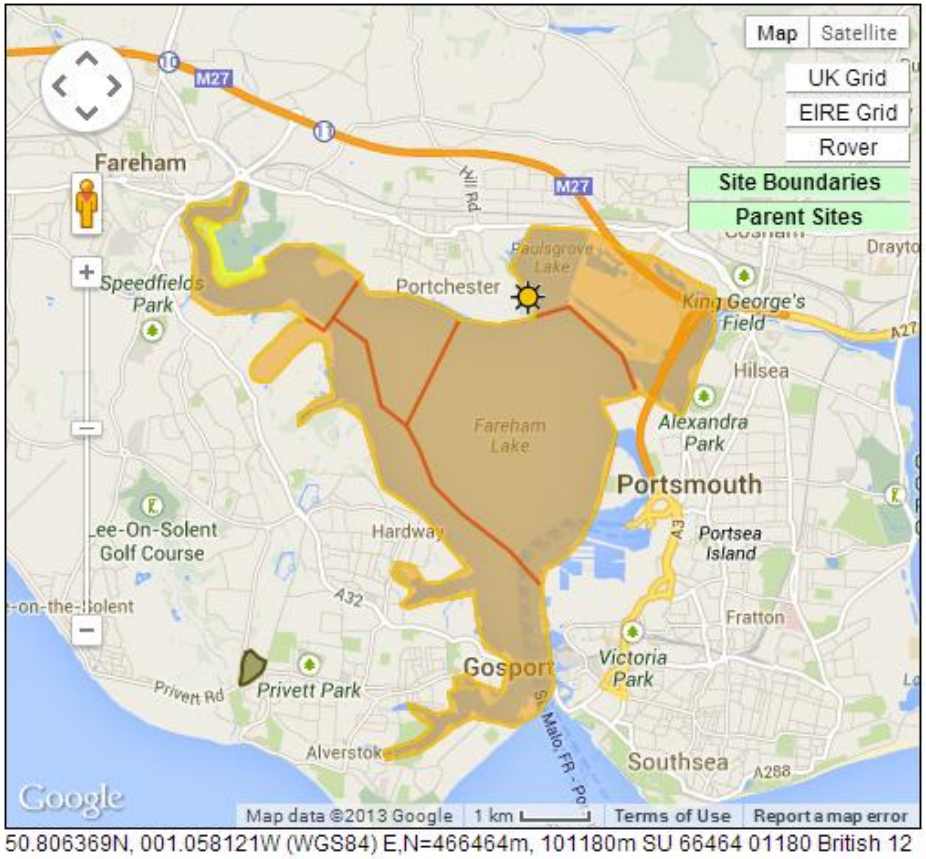


Figure 4.3: Portsmouth Harbour WeBS Survey Area

Figure 4.4: Southampton Water WeBS Survey Area

4.1.6 Of the sites being assessed by the HRA, the following support internationally important populations:

- Chichester & Langstone Harbours SPA 17,119 individuals representing up to 5.7% of the wintering Western Siberia/Western Europe population (5yr peak mean 1991/92-1995/96)
- Chichester and Langstone Harbours Ramsar 12,987 individuals, representing an average of 6% of the population (5 year peak mean 1998/9-2002/3)
- Portsmouth Harbour SPA: 2,847 individuals representing at least 0.9% of the wintering Western Siberia/Western Europe population (5 year peak mean 1991/2 - 1995/6)
- Portsmouth Harbour Ramsar: 2,105 individuals, representing an average of 2.1% of the GB population (5 year peak mean 1998/9-2002/3).
- Solent and Southampton Water SPA: 7,506 individuals representing at least 2.5% of the wintering Western Siberia/Western Europe population (5year peak mean, 1992/3-1996/7).
- Solent and Southampton Water Ramsar: 6,456 individuals, representing an average of 3% of the population (5 year peak mean 1998/9-2002/3).

4.1.7 This species is considered to be susceptible to disturbance from vehicles in the UK, although it is relatively tolerant of human disturbance, e.g. walkers, compared to other species. In its winter range the species may be persecuted by farmers, as in recent years it has increasingly taken to grazing on cultivated grasslands and winter cereal fields near the coast (IUCN 2013).

4.1.8 As shown in Table 4.1 Portsmouth Harbour, Chichester Harbour, Langstone Harbour and Southampton Water are currently maintaining internationally important numbers of Dark-bellied Brent Geese (over 2,400 individuals). The average numbers recorded for Southampton Water in the 2006-2011 and 2011-2016 periods fell below the threshold for an internationally important population, although they were still within the limits set for a nationally important population (910 individuals). It should be noted that this WeBS recording area does not include the Solent which forms a substantial part of the SPA.

Table 4.1: WeBS Core Count data for Dark-bellied Brent Goose

Survey Area	06/07	07/08	08/09	09/10	10/11	5yr avg
Portsmouth Harbour	3,162	(2,500)	2,538	(2,030)	2,054	2,585
Chichester Harbour	9,605	12,171	8,757	8,569	11,434	10,107
Langstone Harbour	4,906	5,263	4,165	3,846	3,947	4,425
Southampton Water	1,151	1,674	869	10,55[12]	1,649	1,280
	11/12	**12/13**	**13/14**	**14/15**	**15/16**	**5yr avg**
Portsmouth Harbour	(2,819)	(2,106)	(3,062)	2,953	2,304	3,008
Chichester Harbour	10,309	10,867	11,206	16,446	14,260	12,618
Langstone Harbour	5,690	5,212	5,507	5,201	(5,563)	5,435
Southampton Water	2,496	1,257	2,395	3,355	1,893	2,279

(X) Incomplete count X[10] WeBS low tide count

X[11] Roost count X[12] Supplementary daytime count

Dunlin

4.1.9 Most Dunlin wintering in north-west Europe are of the nominate sub-species *alpina* which breeds in Scandinavia and Russia. After Lapwings, Dunlins are the most numerous wader in the UK in winter and are found on estuaries and open coasts throughout the country. They occur in particularly high densities in estuaries, and several important sites are on eastern or south-eastern coasts.

4.1.10 The UK population of Dunlin is estimated at 532,000 individuals representing 30% of the biogeographic population (Rose and Scott 1997), 78% of which occur within SPA sites for which the species is a qualifying feature. The species is a vulnerable species of European conservation concern and a Red listed Bird of Conservation Concern in the UK, due to being a species of European Concern which has undergone a severe decline in the UK non-breeding population size, of more than 50%, over 25 years, (or the longer-term).

4.1.11 Overwintering Dunlin mainly prefer estuarine mudflats, but also frequent a wide variety of freshwater and brackish wetlands, both coastal and inland. For roosting during high tides and at night this species prefers large fields of naturally fertilised short pasture or soil-based crops with few vertical structures that could be used by predators.

4.1.12 Of the sites being assessed by the HRA, the following have been assessed as supporting internationally important populations:

- Portsmouth Harbour SPA; Dunlin *Calidris alpina alpina* (Northern Siberia/Europe/Western Africa) 5,123 individuals representing 1% of the population in Great Britain (5 year peak mean 1991/92-1995/96)
- Chichester and Langstone Harbours SPA; Dunlin *Calidris alpina alpina*, 44,294 individuals representing up to 3.2% of the wintering Northern Siberia/Europe/Western Africa population (5 year peak mean 1991/2 - 1995/6)

4.1.13 In the winter this species is restricted to a small number of estuaries, making it vulnerable to changes in this habitat for example through land reclamation or the invasion of alien plant species (such as the grass *Spartina anglica* which has spread on British mudflats, resulting in the reduction in size of feeding areas available). The species is also threatened by disturbance on intertidal mudflats from construction work and foot-traffic on footpaths. It has been shown that provision of well-surfaced paths in breeding areas which receive over 30 visitors a day can reduce the impact of human disturbance on this species' reproductive success (IUCN 2013).

4.1.14 As shown in Table 4.2 Langstone Harbour is currently maintaining internationally important numbers of Dunlin (over 13,300 individuals). Chichester Harbour had previously maintained an internationally important number of Dunlin (2006-2011), however the average numbers recorded have now fallen below the threshold (2011-2016), although still remaining within the limits set for a nationally important population (over 3,500 individuals). Portsmouth Harbour also supports a nationally important population of Dunlin.

Table 4.2: WeBS Core Count data for Dunlin

Survey Area	06/07	07/08	08/09	09/10	10/11	5 yr avg
Portsmouth Harbour	(6,592)	(7,002)	(6,842)	(6,530)	(4,182)	(7,002)
Chichester Harbour	14,152	(18,759)	26,311	17,465	16,658	18,669
Southampton Water	1,827	(2,028)	1,697	1,731	2,238	1,904
Langstone Harbour	12,950	15,007	8,126	13,568	12,319	12,394
	11/12	**12/13**	**13/14**	**14/15**	**15/16**	**5 yr avg**
Portsmouth Harbour	(6,575)	4,070	(5,449)	6,254	(604)	5,633
Chichester Harbour	15,474	12,099	14,799	8,821	9,853	12,209
Southampton Water	(2,072)	1,510	1,782	2,263	1,672	1,806
Langstone Harbour	21,710	15,204	16,908	13,543	12,563	15,986

Black-tailed Godwit

4.1.15 The Icelandic population of Black-tailed Godwit *Limosa limosa islandica* breeds mainly in Iceland and sporadically in the Faeroes, Britain and Ireland. This sub-species winters mainly in Britain, Ireland and western France, and south to Morocco, with the main concentrations on the muddy estuaries of the south coasts of Ireland and England.

4.1.16 The UK population of Black-tailed Godwit is estimated at 7,410 individuals (Cayford & Waters 1996), representing 13% of the biogeographic population (Rose and Scott 1997), 100% of which occur within SPA sites for which the species is a qualifying feature. The species is a vulnerable species of European conservation concern and a Red listed Bird of Conservation Concern in the UK, due to being a species of European Concern which has undergone a severe decline in the UK non-breeding population size, of more than 50%, over 25 years (or the longer-term).

4.1.17 Overwintering Black-tailed Godwits often winter in brackish habitat (such as sheltered estuaries and lagoons with large intertidal mudflats) and roost on damp pasture, often inland. Black-tailed Godwits feed mostly on worms whilst the tide is out.

4.1.18 Of the sites being assessed by the HRA, the following have been assessed as supporting internationally important populations:

- Portsmouth Harbour SPA; Black-tailed godwit *Limosa limosa islandica* (Iceland - breeding) 31 individuals, representing 0.4% of the population in Great Britain (5 year peak mean 1991/92-1995/96)
- Solent and Southampton Water SPA; Black-tailed Godwit *Limosa limosa islandica* 1,125 individuals representing at least 1.7% of the wintering Icelandic-breeding population (5 year peak mean, 1992/3-1996/7)
- Solent and Southampton Water Ramsar; Black-tailed Godwit *Limosa limosa islandica* 1,240 individuals, representing an average of 3.5% of the population (5 year peak mean 1998/9-2002/3)

4.1.19 This species is threatened by the loss of nesting habitat owing to wetland drainage and agricultural intensification. Detrimental activities include the conversion of wet meadows to arable land, increased fertilisation and drainage of grassland, artificial flooding of nesting habitats, earlier and more frequent cutting as farmers adapt to climate change, spring burning, overgrowing by scrub, land claiming by businesses and developers, the construction of roads and parks, and disturbance by walkers. Habitat fragmentation may cause particular problems for this species, which nests in dispersed colonies and sub-colonies as protection against predators and may be unlikely to breed successfully in small areas of habitat (IUCN 2013).

4.1.20 As shown in Table 4.3 Chichester Harbour is currently maintaining internationally important numbers of Black-tailed Godwit (over 610 individuals). The average numbers recorded for Portsmouth Harbour, Langstone Harbour and Southampton Water fall below the threshold for an internationally important population, although they are still within the limits set for a nationally important population (over 430 individuals).

Table 4.3: WeBS Core Count data for Black-tailed Godwit

Survey Area	**06/07**	**07/08**	**08/09**	**09/10**	**10/11**	**5 yr avg**
Portsmouth Harbour	(398)	371	666[10]	(30)	(32)	519
Chichester Harbour	685	775	613	603	832	702
Langstone Harbour	562	674	422	574	705	587
Southampton Water	295	374	490	514	414	428
	11/12	**12/13**	**13/14**	**14/15**	**15/16**	**5 yr avg**
Portsmouth Harbour	(653)	(189)	(361)	452	(178)	553
Chichester Harbour	821	401	606	594	807	646
Langstone Harbour	317	319	423	607	570	447
Southampton Water	438	314	420	571	443	437

Red-breasted Merganser

4.1.21 Red-breasted Mergansers are globally distributed at northern latitudes across northern Eurasia, Greenland and North America. In winter, birds migrate to coastal waters in the North and Baltic Seas, along Atlantic coasts, as well as further south to the Mediterranean, Black and Caspian Seas.

4.1.22 The UK population of Red-breasted Merganser is estimated at 10,000 individuals (Kirby 1995), representing 2% of the biogeographic population (Rose and Scott 1997), 19% of which occur within SPA sites for which the species is a qualifying feature. The species is not considered a species of European conservation concern and is a Green listed Bird of Conservation Concern in the UK.

4.1.23 During the winter, this species favours brackish or saline waters, preferring shallow, protected coasts, estuaries, bays and lagoons with an abundance of small fish and aquatic invertebrates. Red-breasted Mergansers occasionally use inland sites in Britain and Northern Ireland, but usually only during periods of harsh weather conditions.

4.1.24 Of the sites being assessed by the HRA, the following have been assessed as supporting internationally important populations:

- Chichester and Langstone Harbours SPA; Red-breasted Merganser *Mergus serrator* 297 individuals, representing 3% of the population in Great Britain 5 year peak mean 1991/92-1995/96
- Portsmouth Harbour SPA; Red breasted merganser *Mergus serrator* (North-western/Central Europe) 87 individuals, representing 0.9% of the population in Great Britain 5 year peak mean 1991/92-1995/96

4.1.25 The species is subject to persecution and may be shot by anglers and fish-farmers who accuse it of depleting fish stocks. It is also threatened by accidental entanglement and drowning in fishing nets (IUCN 2013).

4.1.26 As shown in Table 4.4 none of the sites are currently maintaining internationally important numbers of Red-breasted Merganser (over 1700 individuals). The latest average numbers recorded for Portsmouth Harbour, Langstone Harbour and Chichester Harbour are within the limits set for a nationally important population (over 84 individuals).

Table 4.4: WeBS Core Count data for Red-breasted Merganser

Survey Area	06/07	07/08	08/09	09/10	10/11	5 yr avg
Portsmouth Harbour	97	78	(89)	90	59	83
Chichester Harbour	217	211	157	253	213	210
Langstone Harbour	159	169	114	180[10]	137	152
	11/12	**12/13**	**13/14**	**14/15**	**15/16**	**5 yr avg**
Portsmouth Harbour	(69)	65	(47)	109	(43)	87
Chichester Harbour	217	154	267	222	76	187
Langstone Harbour	205	143	223	179	(185)	188

Grey Plover

4.1.27 The Grey Plover *Pluvialis squatarola* has a very restricted global distribution. They have an almost circumpolar breeding range, occurring in the high Arctic. Outside the breeding season, birds move south and west to winter on the coasts of north-west Europe, north and west Africa, the Mediterranean and the Middle East.

4.1.28 The UK population of Grey Plover is estimated at 43,200 individuals (Cayford and Waters 1996), representing just 26% of the biogeographic population (Rose and Scott 1997), 90% of which occur within SPA sites for which the species is a qualifying feature. The species is not considered a species of European conservation concern and is an Amber listed Bird of Conservation Concern in the UK due to its important, localised non-breeding population.

4.1.29 The distribution of Grey plovers is strongly localised to areas holding suitable habitats – principally the larger, muddier, estuaries and other soft-sediment coastlines. In Britain and

Ireland, Grey Plovers occur on most coasts, although they are mainly concentrated in the south-east and north-west of England When on the coast in its wintering range the species takes marine worms, molluscs and crustaceans, occasionally also taking insects or earthworms when in inland habitats on passage (IUCN 2013).

4.1.30 In the UK there is evidence that the removal of *Spartina anglica* from tidal mudflats using herbicide is beneficial for the species (IUCN 2013).

4.1.31 Of the sites being assessed by the HRA, the following have been assessed as supporting internationally important populations:

- Chichester and Langstone Harbour SPA; Grey Plover *Pluvialis squatarola*, 3,825 individuals representing up to 2.3% of the wintering Eastern Atlantic - wintering population (5 year peak mean 1991/2 - 1995/6)
- Chichester and Langstone Harbour Ramsar; Grey Plover *Pluvialis squatarola* 3,043 individuals, representing an average of 1.2% of the E Atlantic/W. Africa population (5 year peak mean 1998/9-2002/3)

4.1.32 As shown in Table 4.5 none of the sites are currently maintaining internationally important numbers of Grey Plover (over 2,500 individuals). However, both Chichester Harbour and Langstone Harbour are within the limits set for a nationally important population (over 430 individuals).

Table 4.5: WeBS Core Count data for Grey Plover

Survey Area	06/07	07/08	08/09	09/10	10/11	5yr Avg
Chichester Harbour	1,592	1,604	1,416	1,960	897	1,494
Langstone Harbour	702	848	989	820	825	837
	11/12	**12/13**	**13/14**	**14/15**	**15/16**	**5yr Avg**
Chichester Harbour	1,463	1,450	1,222	1,536	1,667	1,468
Langstone Harbour	618	614	675	871	865	729

Ringed Plover

4.1.33 The Ringed Plover *Charadrius hiaticula* is an arctic and northern temperate breeding wader. Through much of its range it is an essentially high Arctic breeding bird, but the range extends to the temperate coasts of north-western Europe, including the UK as well as a few inland areas of Europe. The UK supports both breeding and non-breeding individuals.

4.1.34 The UK population of breeding Ringed Plover is estimated at 8,500 pairs (Lloyd *et al* 1991). During the winter the UK supports 28,600 individuals representing 14% of the biogeographic population (Rose and Scott 1997), 21% of which occur within SPA sites for which the species is a qualifying feature. A further 30,000 birds will pass through the UK during winter migrations. This represents 30% of the biogeographic population. The species is not considered a species of European conservation concern but is a UK Amber listed Bird of Conservation Concern because of an important non-breeding population and a decline in breeding population.

4.1.35 Ringed Plovers have a wide breeding distribution around the coast of Britain and Ireland. In England, the extensive sandy and shingle beaches between the Thames and the Humber hold most of the population, but the islands off western Scotland are also very important for the population. Southerly populations, such as those in Britain and Ireland, breed mainly on coastal sand, gravel and shingle beaches, upper saltmarshes and artificial habitats such as the shores of gravel pits and reservoirs; although short-grazed coastal pastures, Outer Hebridean machair and arable fields in eastern England may also be frequently used. Breeding Ringed Plovers are highly site faithful.

4.1.36 Of the sites being assessed by the HRA, the following have been assessed as supporting internationally important populations:

- Chichester and Langstone Harbours SPA; Ringed Plover *Charadrius hiaticula*, 846 individuals representing up to 3.0% of the wintering Europe/Northern Africa - wintering population (5 year peak mean 1991/2 - 1995/6)
- Chichester and Langstone Ramsar; Ringed Plover *Charadrius hiaticula*, 853 individuals representing up to 1.1% of the wintering Europe/Northern Africa population (5 year peak mean 1998/9 - 2002/3)
- Solent and Southampton Water SPA; Ringed Plover *Charadrius hiaticula* 552 individuals representing at least 1.2% of the wintering Europe/Northern Africa - wintering population (5 year peak mean, 1992/3-1996/7
- Solent and Southampton Water Ramsar; Ringed Plover *Charadrius hiaticula* 397 individuals, representing an average of 1.2% of the GB population (5 year peak mean 1998/9-2002/3)

4.1.37 As shown in Table 4.6 Chichester Harbour is maintaining a nationally important population of Ringed Plover (over 340 individuals). Langstone and Portsmouth Harbours and Southampton Water did not meet table-qualifying levels for Ringed Plover in the WeBS counts for 2006 to 2011 or 2011 to 2016, as indicated by the absence of records.

Table 4.6: WeBS Core Count data for Ringed Plover

Survey Area	06/07	07/08	08/09	09/10	10/11	5yr Avg
Chichester Harbour	365	233	395	422	221	327
	11/12	**12/13**	**13/14**	**14/15**	**15/16**	**5yr Avg**
Chichester Harbour	(424)	750	512	751	254	567

Common Tern

4.1.38 The Common Tern is a common and widespread breeding species of both coastal and inland regions in the northern hemisphere. It is a long-distance migrant and winters mainly in the southern hemisphere.

4.1.39 The UK population of breeding Common Tern is estimated at 12,300 pairs (Gibbons *et al* 1993) which represents 4% of the biogeographic population (Rose and Scott 1997), 46% of which occur within SPA sites for which the species is a qualifying feature. The species is not

considered a species of European conservation concern but is an Amber listed Bird of Conservation Concern in the UK because of its localised breeding population.

4.1.40 Common Terns breed around coasts and beside inland freshwater bodies. Coastal sites are mainly small rocky islets, shingle beaches, sand-spits and dunes, as well as among short vegetation (occasionally more scrubby growth). Inland sites include shingle banks in rivers, islands in lakes and gravel pits, marshes and shallow lagoons. More artificial sites, including waste ground, specially made floating rafts and even gravel-covered flat-roofs, are occasionally used.

4.1.41 A significant proportion of the British population breeds in Scotland, particularly in the northern and western Isles and on the west coast, but with sizeable colonies also along the east coast firths. Common Terns also commonly breed inland on riverine shingle and islands, not only in Scotland but also in England. Coastal colonies in England are mainly concentrated in the north-east, East Anglia, at a few localities along the south coast, and in the north-west. The only Welsh colonies are on Anglesey. Inland breeding takes place mainly in eastern Scotland and in central, eastern and southern England. Colonies in Ireland are well spread around the coasts, with scattered inland breeding through the midlands.

4.1.42 Of the sites being assessed by the HRA, the following have been assessed as supporting internationally important populations:

- Chichester and Langstone Harbour SPA; Common tern *Sterna hirundo*, 33 pairs, representing 0.3% of the breeding population in Great Britain (5 year mean, 1992-1996)
- Solent & Southampton Water SPA; Common tern *Sterna hirundo*, 267 pairs representing at least 2.2% of the breeding population in Great Britain (5yr peak mean, 1993-1997)
- Solent and Southampton Water Ramsar; Common tern *Sterna Hirundo* 192 apparently occupied nests, representing an average of 1.8% of the GB population (Seabird 2000 Census)

4.1.43 During the breeding season the species is vulnerable to human disturbance at nesting colonies (e.g. from off-road vehicles, recreation, motor-boats, personal watercraft and dogs), and to the flooding of nest sites as a result of naturally fluctuating water levels. On its breeding grounds the species is also threatened by habitat loss as a result of coastal development, erosion and vegetation overgrowth (rapid vegetation succession encroaching upon nesting habitats (IUCN 2013).

4.1.44 As shown in Table 4.7 none of the sites are currently maintaining internationally important numbers of Common Tern (over 1,800 individuals). There are currently no British thresholds set for this species. However, Southampton Water exceeds the limits suggested by Holt (2012) for a nationally important population (over 200 individuals). It should be noted that at the current time the recording of terns during WeBS surveys is optional.

Table 4.7: WeBS Core Count data for Common Tern

Survey Area	06/07	07/08	08/09	09/10	10/11	Mean
Southampton Water	(133)	(2)	(310)	(260)	(159)	(310)
	06/07	**07/08**	**08/09**	**09/10**	**10/11**	**Mean**
Southampton Water	480	112	(24)	(35)	3	198

Little Tern

4.1.45 The Little Tern has a widely scattered global distribution. The European breeding distribution is discontinuous, but extends from the Gulf of Bothnia to the coasts of the Mediterranean and North Africa. Through much of this area, the species is restricted to the coast, although it breeds along a number of major river systems.

4.1.46 The UK population of Little Tern is estimated at 2,400 pairs (Lloyd *et al* 1991), representing 8% of the biogeographic population (Rose and Scott 1997), 67% of which occur within SPA sites for which the species is a qualifying feature. The species is a declining species of European conservation concern and an Amber listed Bird of Conservation Concern in the UK because it is a species of European Concern, with a localised breeding population which has suffered a decline in its range.

4.1.47 Breeding occurs at scattered colonies around much of the coast of Britain and Ireland, from the north of Scotland to the south coast of England. All British and Irish Little Terns nest on the coast, utilising sand and shingle beaches and spits, as well as tiny islets of sand or rock close inshore. The greater part of the population occurs in south and east England from Hampshire to Norfolk (Lloyd *et al.* 1991). There are small, scattered colonies on the coasts of north-east and north-west England, eastern Scotland, the Outer and Inner Hebrides, and in Wales. The Irish population is mainly found on the west and south-east coasts. Feeding takes place close to the colony, to a maximum distance of 6 km, but not more than 1.5 km offshore (Cramp *et al.* 1974).

4.1.48 Of the sites being assessed by the HRA, the following have been assessed as supporting internationally important populations:

- Chichester and Langstone Harbours SPA; Little Tern *Sterna albifrons*, 100 pairs representing up to 4.2% of the breeding population in Great Britain (5 year mean, 1992-1996)
- Chichester and Langstone Harbours Ramsar; Little Tern *Sterna albifrons*, 130 apparently occupied nests, representing an average of 1.1% of the breeding population (Seabird 2000 Census)
- Solent and Southampton Water SPA; Little Tern *Sterna albifrons*, 49 pairs representing at least 2.0% of the breeding population in Great Britain (5 year peak mean, 1993-1997)
- Solent and Southampton Water Ramsar; Little Tern *Sterna albifrons* 22 apparently occupied nests, representing an average of 1.1% of the GB population (Seabird 2000 Census)

4.1.49 The species is threatened by habitat destruction such as the development and industrial reclamation of coastal breeding habitats (e.g. for the development of new harbour facilities) It is also highly vulnerable to human disturbance (including birdwatchers) at coastal and inland nesting sites which can lead to nest failures. Pesticide pollution and artificially induced water-level fluctuations in saltmarshes may also pose a threat to the species' reproductive success.

4.1.50 The Chichester, Langstone and Portsmouth Harbours and Southampton Water did not meet nationally or internationally important population levels for Little Tern in the WeBS counts for 2011 to 2016, as indicated by the absence of records.

Roseate Tern

4.1.51 The global distribution of Roseate Tern comprises a number of discrete ranges, with breeding occurring around the edges of the North Atlantic, Indian and south-west Pacific Oceans. In Europe, the breeding population is confined to Britain, Ireland and France (Brittany), as well as the Azores.

4.1.52 The UK population of breeding Roseate Terns is estimated at 64 pairs (Stone *et al* 1997) which represents 3% of the biogeographic population (Rose and Scott 1997), 88% of which are found within SPA sites for which the species is a qualifying feature. The species is listed as a rare species of conservation concern in Europe and an Amber listed Bird of Conservation Concern in the UK due to a recent decline in the breeding population.

4.1.53 Breeding takes place on the coast, with colonies established on sand-spits and dunes, shingle beaches and low rocky islets. Its diet consists predominantly of small pelagic fish, particularly sandeel (which are particularly important during chick rearing.

4.1.54 Of the sites being assessed by the HRA, the following have been assessed as supporting internationally important populations:

- Solent and Southampton Water SPA; Roseate Tern *Sterna dougalli* 2 pairs representing at least 3.1% of the breeding population in Great Britain (5 year peak mean, 1993-1997)
- Solent and Southampton Water Ramsar; Roseate Tern *Sterna dougallii* 1 apparently occupied nests, representing an average of 1.9% of the GB population (Seabird 2000 Census)

4.1.55 At the northern European breeding grounds, the most significant threats are human disturbance (e.g. from habitat development, off-road vehicles and recreation and predation from both natural and introduced avian and ground predators (IUCN 2013).

4.1.56 No data is available for Chichester Harbour and Portsmouth Harbour. A single individual was reordered in Southampton Water over the last 5 years (2011); no individuals were recorded at Langstone Harbour in this period.

Mediterranean Gull

4.1.57 The global distribution of Mediterranean Gull *Larus melanocephalus* is highly restricted, with breeding limited to just a few localities in Europe, particularly along the northern coast of the

Black Sea. In the UK, which is at the north-western limit of the species' world range, breeding is extremely localised.

4.1.58 The UK population of breeding Mediterranean Gull is estimated at 31 pairs (Ogilvie *et al* 1996) which represents 0.1% of the biogeographic population (Rose and Scott 1997), 74% of which occur within SPA sites for which the species is a qualifying feature. The species is not considered a species of European conservation concern but is an Amber listed Bird of Conservation Concern in the UK because of its small breeding population.

4.1.59 It nests near water on flood-lands, fields and grasslands and on wet or dry areas of islands favouring sparse vegetation but generally avoiding barren sand Non-breeding Outside of the breeding season the species becomes entirely coastal favouring estuaries, harbours, saline lagoons and other sheltered waters. It is not known where the birds that breed in England spend the non-breeding season, but it seems likely that they use coastal areas near to the nesting colonies in south-east and south England.

4.1.60 Of the sites being assessed by the HRA, the following have been assessed as supporting internationally important populations:

- Solent and Southampton Water SPA; Mediterranean Gull *Larus melanocephalus* 2 pairs representing at least 15.4% of the breeding population in Great Britain (5 year peak mean, 1994-1998)
- Solent and Southampton Water Ramsar; Mediterranean Gull *Larus melanocephalus,* 11 apparently occupied nests, representing an average of 10.1% of the GB population (Seabird 2000 Census)

4.1.61 This species sustains heavy losses as a result of tourist disturbance at breeding colonies. The species may also be threatened by habitat loss resulting from tourism development, and by marine pollution (IUCN 2013).

4.1.62 As shown in Table 4.8 none of the sites are currently maintaining internationally important numbers of Mediterranean Gull (over 770 individuals). Southampton Water and Chichester Harbour both exceed the threshold set for sites of national importance (18 individuals). Portsmouth Harbour no longer maintains a nationally important population, having done so in the previous 5 year period (2006 -2011).

Table 4.8: WeBS Core Count data for Mediterranean Gull

Survey Area	06/07	07/08	08/09	09/10	10/11	5 yr avg
Southampton Water	(112)	(309)	(30)	(36)	1254	348
Chichester Harbour	12	(31)	28	(56)	(61)	38
Portsmouth Harbour	11	(12)	29	13	10	15
	11/12	**12/13**	**13/14**	**14/15**	**15/16**	**5 yr avg**
Southampton Water	478	39	873	92	135	323
Chichester Harbour	114	24	89	10	36	55
Portsmouth Harbour	(9)	2	(5)	7	(2)	6

Teal

4.1.63 In Europe, Teal *Anas crecca* breed discontinuously from Iceland, Britain, Ireland, and France eastward to Russia. In winter, the species occurs across much of Europe, wherever there are suitable wetland habitats, including inland and coastal wetlands. Most non-breeding Teal in the UK, as elsewhere in Europe, originate from the east and north, including Iceland, Fennoscandia, and Russia. Winter flocks also contain locally breeding birds that, within Europe, are of a more sedentary or dispersive nature.

4.1.64 The UK population of Teal is estimated at 135,000 (Kirby 1995) which represents 17% of the biogeographic population (Rose and Scott 1997), 47% of which are found within SPA sites for which this species is a qualifying feature. It is also estimated that 2100 pairs of breeding birds are resident in the UK (BTO 2013). The species is not considered to be of conservation concern in Europe but is an Amber listed Bird of Conservation Concern in the UK due to its important non-breeding population.

4.1.65 Non-breeding Teal are widespread throughout Britain and Ireland, favouring areas of shallow water on estuarine coastal lagoons, coastal and inland marshes, and flooded pastures and ponds. They are absent only from mountainous areas, coastal stretches with high cliffs and inland areas which lack suitable freshwater habitats.

4.1.66 Of the sites being assessed by the HRA, the following have been assessed as supporting internationally important populations:

- Chichester and Langstone Harbours SPA; Teal *Anas crecca* 1,824 individuals, representing 0.5% of the population 5 year peak mean 1991/92-1995/96
- Solent and Southampton Water SPA; Teal *Anas crecca* 4,400 individuals representing at least 1.1% of the wintering Northwestern Europe population (5 year peak mean, 1992/3-1996/7)
- Solent and Southampton Water Ramsar; Teal *Anas crecca* 5,514 individuals, representing an average of 1.3% of the population (5 year peak mean 1998/9-2002/3)

4.1.67 This species is threatened by lowland habitat loss and degradation. It is also threatened by disturbance from human recreational activities and construction work (IUCN 2013). Chichester, Langstone and Portsmouth Harbours and Southampton Water did not meet table-qualifying levels for Eurasian Teal in the WeBS counts for 2011 to 2016, as indicated by the absence of records.

Redshank

4.1.68 Redshank *Tringia totanus* have a wide, though fragmented distribution across temperate and steppe Eurasia, from Iceland in the west, through continental Europe to the Russian Far East. In Europe, Redshanks breed in nearly all countries. However, they are most abundant in the countries of eastern Europe, Britain and Ireland, Scandinavia and the Low Countries. Throughout its European distribution, the species breeds on inland and coastal wet grasslands and coastal saltmarshes.

4.1.69 The UK population of Redshank is estimated at 114,000 (Cayford and Waters 1996) which represents approximately 38% of the biogeographic population (Rose and Scott 1997), 48% of which are found within SPA sites for which this species is a qualifying feature. It is also estimated that 30,600 pairs of breeding birds are resident in the UK (JNCC 2013) and that there is significant intermingling between breeding and non-breeding birds within flocks. The species is considered to be a declining species of conservation concern in Europe and is an Amber listed Bird of Conservation Concern in the UK due to the presence of an important non-breeding population and a recent decline in the breeding population.

4.1.70 Redshank breed locally across most of the UK. Highest breeding densities are found on the East Anglian and north-western coasts of England where nesting occurs on saltmarshes and on adjacent wet grassland habitats. Some of the highest breeding densities occur on machair habitats in the Western Isles of Scotland and the Inner Hebrides, as well as on low-intensity agricultural land in Orkney and Shetland and certain areas of managed coastal grassland.

4.1.71 Of the sites being assessed by the HRA, the following have been assessed as supporting internationally important populations:

- Chichester and Langstone harbour SPA; Redshank *Tringia totanus* 1,788 individuals, representing 1.0% of the Eastern Atlantic wintering population (5 year peak mean 1991/92-1995/96)
- Chichester and Langstone harbour Ramsar; Redshank *Tringia totanus* 2,577 individuals, representing an average of 1% of the population (5 year peak mean 1998/9-2002/3)

4.1.72 The species is threatened by the loss of breeding and wintering habitats through agricultural intensification, wetland drainage, flood control, afforestation, land reclamation, industrial development encroachment of *Spartina* spp. on mudflats, improvement of marginal grasslands, coastal barrage construction and heavy grazing. The species is also threatened by disturbance on intertidal mudflats from construction work (UK) and foot-traffic on footpaths (IUCN 2013)

4.1.73 As shown in Table 4.9 Chichester Harbour was the only site where nationally important numbers of Redshank (over 1,200 individuals) were recorded, levels for internationally significant populations are set at 2,400 individuals.

Table 4.9: WeBS Core Count data for Redshank

Survey Area	06/07	07/08	08/09	09/10	10/11	5 yr avg
Chichester Harbour	(2,535)	2,403	1,810	2,028	1,873	2,130
	11/12	**12/13**	**13/14**	**14/15**	**15/16**	**5 yr avg**
Chichester Harbour	2,137	(1,790)	1,953	2,139	(1,649)	2,076

Shelduck

4.1.74 The global range of the Shelduck *Tadorna tadorna* extends discontinuously east from western Europe, through central Asia to Iran and Pakistan. In the non-breeding season the species occurs along most of the coasts of north-west Europe, from western France to inshore Danish waters.

4.1.75 The UK population of overwintering Shelduck is estimated at 73,500 individuals (Stone *et al* 1997) which represents 22% of the biogeographic population (Rose and Scott 1997), 84% of which are found within SPA sites for which the species is a qualifying feature. The species is not listed as a species of conservation concern in Europe but is an Amber listed Bird of Conservation Concern in the UK due to the presence of an important, localised non-breeding population.

4.1.76 Non-breeding Shelduck in the UK are part of the north-west European population, which comprises 300,000 individuals (Rose & Scott 1997). Shelduck wintering in the UK occur on most coasts. There are notable concentrations on the muddy estuaries of East Anglia, the south coast of England, the Severn Estuary, north-west England, eastern Scotland, and the east coast of Northern Ireland (Lack 1986).

4.1.77 Of the sites being assessed by the HRA, the following have been assessed as supporting internationally important populations:

- Chichester and Langstone Harbours SPA; Shelduck *Tadorna tadorna* 2,410 individuals, representing 3.3% of the population in Great Britain (5 year peak mean 1991/92-1995/96)
- Chichester and Langstone Harbours Ramsar; Common Shelduck *Tadorna tadorna* 1,468 individuals, representing an average of 1.8% of the GB population (5 year peak mean 1998/9-2002/3)

4.1.78 As shown in Table 4.10 Chichester Harbour was the only site where nationally important numbers of Shelduck (over 610 individuals) were recorded in the last 10 years, although the 5 year average has dropped below this count for the 2011 to 2016 period.

Table 4.10: WeBS Core Count data for Shelduck

Survey Area	06/07	07/08	08/09	09/10	10/11	5yr Avg
Chichester Harbour	643	449	560	926	638	643
	06/07	**07/08**	**08/09**	**09/10**	**10/11**	**5yr Avg**
Chichester Harbour	563	696	363	572	340	507

Eurasian Curlew

4.1.79 The breeding distribution of Curlew *Numenius arquata* is globally restricted to the temperate and boreal regions of Europe and Asia. In Europe, Curlews have an essentially northern temperate distribution, occurring in greatest numbers in Scandinavia, the Low Countries (especially The Netherlands) and in Britain and Ireland. Curlews are found around most of the coastline of Britain and Ireland in winter following their migration from Scandinavia. They also frequent extensive areas of wet grasslands such as valley floodplains.

4.1.80 The UK population of overwintering Curlew is estimated at 115,000 (Cayford and Waters 1996) which represents approximately 14% of the biogeographic population (Rose and Scott 1997), 38% of which are found within SPA sites for which this species is a qualifying feature. It is also estimated that 33,000 pairs of breeding birds are resident in the UK (JNCC 2013). The species is considered to be a declining species of conservation concern in Europe and is an Amber listed

Bird of Conservation Concern in the UK due to the presence of important breeding and non-breeding populations and a recent decline in the breeding population.

4.1.81 The species breeds on upland moors, peat bogs, swampy and dry heathlands, fens, open grassy or boggy areas in forests, damp grasslands, meadows, non-intensive farmland and in river valleys. During the winter the species frequents muddy coasts, bays and estuaries and saltmarshes. It also utilises wet grassland and arable fields during migration. Its diet consists chiefly of annelid worms and terrestrial insects), although it will also take crustaceans, molluscs, berries and seeds, as well as occasionally small fish and amphibians.

4.1.82 Of the sites being assessed by the HRA, the following have been assessed as supporting internationally important populations:

- Chichester and Langstone Harbours SPA; Curlew *Numenius arquata* 1,861 individuals, representing 1.6% of the population in Great Britain (5 year peak mean 1991/92-1995/96)

4.1.83 The species is threatened by the loss and fragmentation of moorland habitats as a result of afforestation and of marginal grassland habitats as a result of agricultural intensification and improvement. Wintering populations are threatened by disturbance on intertidal mudflats e.g. from construction and foot-traffic development on high-tide roosting sites, pollution and the flooding of estuarine mudflats and saltmarshes as a result of tidal barrage construction.

4.1.84 As shown in Table 4.11 Chichester and Langstone Harbours both recorded nationally important numbers of Redshank (over 1,400 individuals) during WeBS surveys. The levels for internationally significant populations are set at 8,400 individuals.

Table 4.11: WeBS Core Count data for Eurasian Curlew

Survey Area	06/07	07/08	08/09	09/10	10/11	5yr Avg
Chichester Harbour	2,052	1,760	1,481	1,763	1,685	1,748
Langstone Harbour	1,343	1,279	1,228	1,469	1,506	1,365
	11/12	**12/13**	**13/14**	**14/15**	**15/16**	**5yr Avg**
Chichester Harbour	1,857	1,557	1,960	1,391	1,125	1,578
Langstone Harbour	1,936	1,833	1,118	1,231	1,418	1,507

Bar-tailed Godwit

4.1.85 The Bar-tailed Godwit *Limosa lapponica* is a high-Arctic breeder, although it occurs at lower latitudes in European Russia and Scandinavia. The European winter distribution of Bar-tailed Godwits is centred on the estuaries of Britain and Ireland, as well as the coasts of the southern North Sea – especially the international Wadden Sea.

4.1.86 The UK population of Bar-tailed Godwit is estimated at 52,500 (Cayford and Waters 1996) which represents approximately 39% of the biogeographic population (Rose and Scott 1997), 70% of which are found within SPA sites for which this species is a qualifying feature. The species is not considered of conservation concern in Europe but is an Amber listed Bird of Conservation Concern in the UK due to the presence of important, localised non-breeding populations.

4.1.87 In Britain Bar-tailed Godwits are mostly distributed along the North Sea coast, and from northwest England to the Outer Hebrides. On passage the species may frequent inland wetlands, sandy beaches, swampy lowlands near lakes and short-grass meadows, but during the winter it is more common in intertidal areas along muddy coastlines, estuaries, inlets, mangrove-fringed lagoons and sheltered bays with tidal mudflats or sandbars.

4.1.88 Of the sites being assessed by the HRA, the following have been assessed as supporting internationally important populations:

- Chichester and Langstone Harbours SPA; 1,692 individuals representing up to 3.2% of the wintering population in Great Britain (5 year peak mean 1991/2 - 1995/6)

4.1.89 The species is threatened by the degradation of foraging sites due to land reclamation, pollution and human disturbance. In the UK there is evidence that the removal of *Spartina anglica* from tidal mudflats using a herbicide is beneficial for the species.

4.1.90 As shown in Table 4.12. Chichester Harbour is the only survey area to record nationally important population numbers (380 individuals). Chichester Harbour also met the threshold set for an internationally important population (1,200 individuals) in the 2007 to 2008 and 2014 to 2015 recording periods.

Table 4.12: WeBS Core Count data for Bar-tailed Godwit

Survey Area	06/07	07/08	08/09	09/10	10/11	5yr Avg
Chichester Harbour	630	1228	802	1006	890	911
	06/07	**07/08**	**08/09**	**09/10**	**10/11**	**5yr Avg**
Chichester Harbour	620	903	1,159	328	760	754

Shoveler

4.1.91 The Shoveler *Anas clypeata* has an extensive global distribution, breeding at northern latitudes throughout both Eurasia and North America.

4.1.92 Those Shoveler that overwinter in Britain originate from Russia, the Baltic States, Fennoscandia and Iceland, and are widely distributed across central and southern England. In north-west and south-west England they are more localised as suitable habitat is less widespread. Shovelers inhabit reservoirs, natural lakes, flooded mineral workings, coastal wetlands and flooded grasslands.

4.1.93 The UK population of overwintering Shoveler is estimated at 10,000 (Kirby 1995) which represents approximately 9% of the biogeographic population (Rose and Scott 1997), 35% of which are found within SPA sites for which this species is a qualifying feature. It is also estimated that 1000 pairs of breeding birds are resident in the UK (JNCC 2013). The species is considered to be a declining species of conservation concern in Europe and is an Amber listed Bird of Conservation Concern in the UK due to the presence of important non-breeding populations.

4.1.94 Within Britain the breeding strongholds are the Norfolk Broads, the north Kent Marshes and the East Anglian fens, with birds widely scattered elsewhere in eastern and central England,

becoming scarcer in upland areas and the south-west. In Scotland, birds breed in lowland areas between the Forth and the Grampians, as well as on the lochs of the Uists, Tiree and Orkney. They inhabit freshwater wetlands, typically nesting in sparse cover near to shallow eutrophic still waters.

4.1.95 As with many migratory birds, there is a high turnover of Shoveler passing through Britain, with the overall numbers, which vary considerably from year to year, likely to be more than the estimated British population of 10,000 (Kirby 1995a). In 1989/90 non-breeding birds were split between the following habitat types: 17– 39% on reservoirs, 18–30% on natural lakes, 13–23% on flooded mineral workings, 7–22% on coastal wetlands and 6–19% on flooded grasslands (Kirby & Mitchell 1993).

4.1.96 Of the sites being assessed by the HRA, the following have been assessed as supporting internationally important populations:

- Chichester and Langstone Harbours SPA; Shoveler *Anas clypeata,* 100 individuals, representing 1.0% of the population in Great Britain (5 year peak mean 1991/92-1995/96)

4.1.97 None of the four survey areas met mean table-qualifying levels for Shoveler in the WeBS counts for 2011 to 2016, as indicated by the absence of records. These are set at 400 individuals for a site of international importance and 180 individuals for a site of national importance.

Pintail

4.1.98 Pintail *Anas acuta* has a widespread global distribution across North America and north Eurasia, breeding mainly in tundra and taiga zones. In Europe, as in the UK, Pintail is a rare breeding bird, occurring in a few suitable wetland areas. Most birds occurring in winter migrate from more northern and eastern breeding areas in Fennoscandia and Russia.

4.1.99 The UK population of Bar-tailed Godwit is estimated at 27,800 (Kirby 1995) which represents approximately 32% of the biogeographic population (Rose and Scott 1997), 67% of which are found within SPA sites for which this species is a qualifying feature. The species is a declining species of conservation concern in Europe but is an Amber listed Bird of Conservation Concern in the UK due to the presence of a small breeding population and an important, localised non-breeding population.

4.1.100 Pintail concentrate in large numbers at a small number of sites, much more so than many other non-breeding ducks. Indeed, half the north-west European population is confined to just thirteen sites, along North Sea, Irish Sea and Atlantic coasts. Principal sites in the UK are estuaries in north-west England and north Wales, which hold three times the non-breeding numbers occurring in east-central England, the second most important area.

4.1.101 Pintail are extremely mobile during the winter, taking advantage of habitats which are only temporarily available through flooding. This mobility causes local changes in distribution and changes to the relative importance of individual sites through the winter. Numbers of birds at individual sites in the UK and the Republic of Ireland also fluctuate markedly between years indicating a low degree of site fidelity.

4.1.102 Of the sites being assessed by the HRA, the following have been assessed as supporting internationally important populations:

- Chichester and Langstone Harbours SPA; Pintail *Anas acuta,* 330 individuals, representing 1.2% of the population in Great Britain 5 year peak mean 1991/92-1995/96

4.1.103 The species is threatened by wetland habitat loss on its breeding and wintering grounds (Scott and Rose 1996). Reclamation of coastal areas for industrial development poses a threat in Europe.

4.1.104 None of the WeBS survey areas met mean table-qualifying levels for Pintail in the WeBS counts for 2011 to 2016, as indicated by the absence of records. These are set at 600 individuals for a site of international importance and 290 individuals for a site of national importance.

Turnstone

4.1.105 The Turnstone *Arenaria interpres* has a circumpolar breeding distribution. Through much of its range, the species is a high-Arctic breeder, occurring in the northernmost parts of Greenland, Russia and Canada.

4.1.106 The UK population of Turnstone is estimated at 64,400 (Cayford and Waters 1996) which represents approximately 15% of the biogeographic population (Rose and Scott 1997), only 13% of which are found within the SPA suite. The species is not considered to be of conservation concern in Europe but is an Amber listed Bird of Conservation Concern in the UK due to the presence of an important non-breeding population.

4.1.107 The UK wintering total is a component of the Western Palearctic wintering population, which comprises 67,000 individuals. The UK non-breeding distribution includes the entire coastline of the UK, with concentrations on the coast of north-east England, the estuaries of north-west England, the north Kent coast, the east coast of Scotland, the Outer Hebrides, Orkney, and the east coast of Northern Ireland The preferred non-breeding habitat is shores that are rocky, stony, or covered with seaweed.

4.1.108 Of the sites being assessed by the HRA, the following have been assessed as supporting internationally important populations:

- Chichester and Langstone Harbours SPA; Turnstone *Arenaria interprens* 430 individuals, representing 0.7% of the population in Great Britain (5 year peak mean 1991/92-1995/96)

4.1.109 As shown in Table 4.13 Langstone Harbour did not meet table-qualifying levels for nationally important numbers of Turnstone in the WeBS counts for 2010/11 (set at 480 individuals). However, they were met in the 2007 to 2008, 2008 to 2009 and 2015 to 2016 recording periods. The survey areas at Chichester and Portsmouth Harbours and Southampton Water did not meet table-qualifying levels.

Table 4.13: WeBS Core Count data for Turnstone

Survey Area	06/07	07/08	08/09	09/10	10/11	5yr Avg
Langstone Harbour	450	488	550	299	415	440
	06/07	**07/08**	**08/09**	**09/10**	**10/11**	**5yr Avg**
Langstone Harbour	218	267	303	389	486	333

Wigeon

4.1.110 The global distribution of the Wigeon extends from Iceland in the west, across Eurasia to the coasts of the Bering Sea and the Sea of Okhotsk. The species is a boreal breeder, occurring throughout the extensive Russian taigas where it is the most abundant of the dabbling ducks.

4.1.111 In the UK, Wigeon breed sparsely throughout much of eastern England, becoming more widely distributed in the uplands of northern England, central Scotland, the northern Scottish bogs and the Northern Isles. Over 75% of the UK population breeds in Scotland, and the species' range may be limited by water quality (with a preference for neutral or alkaline waters), and availability of suitable nesting sites.

4.1.112 The UK population of overwintering Wigeon is estimated at 277,800 (Kirby 1995) which represents approximately 18% of the biogeographic population (Rose and Scott 1997), 79% of which are found within SPA sites for which this species is a qualifying feature. It is also estimated that 300 pairs of breeding birds are resident in the UK (JNCC 2013). The species is not considered as a species of conservation concern in Europe but is an Amber listed Bird of Conservation Concern in the UK due to the presence of important and localised non-breeding population in the UK.

4.1.113 In winter, Wigeon are highly gregarious, and occur in large, mobile flocks that rapidly move to other areas should conditions change for the worse. Wigeon is largely a coastal species, feeding on mud-flats, coastal flooded grassland and saltmarsh pastures. In the UK, the species is also widespread on inland flooded grassland. The use of inland sites appears to have increased in recent years, as birds have adapted their feeding habits in response to changes in the availability of food, as well as the conservation management of key floodplain and other wetlands.

4.1.114 Of the sites being assessed by the HRA, the following have been assessed as supporting internationally important populations:

- Chichester and Langstone Harbours SPA; Eurasian wigeon *Anas penelope* 2,055 individuals, representing 0.7% of the population in Great Britain (5 year peak mean 1991/92-1995/96)

4.1.115 This species is susceptible to disturbance from freshwater recreational activities, pollution, wetland drainage and changing wetland management practices (IUCN 2013).

4.1.116 None of the WeBS survey areas met mean average table-qualifying levels for Wigeon in the WeBS counts for 2011 to 2016 as indicated by the absence of records. These are set at 15,000

individuals for a site of international importance and 4,400 individuals for a site of national importance.

Nightjar

4.1.117 The Nightjar's *Caprimulgus europaeus* global distribution lies in the Palearctic where it breeds from North Africa and western Europe, widely across temperate regions of Eurasia as far as central Asia and western China.

4.1.118 In the UK, Ireland and central Europe its distribution tends to be sporadic, reflecting the scattered availability of good breeding habitats (Cramp 1985; Hagemeijer & Blair 1997). Nightjars breeding in the UK are concentrated in southern and south-eastern England and East Anglia, with much smaller numbers and lower densities occurring in Wales, the Midlands, north-east England and south-west Scotland. There may be less than 30 pairs throughout the whole of Ireland.

4.1.119 The UK breeding population of Nightjar is estimated by surveying the numbers of male birds heard 'churring' (calling) and is around 4,600 pairs (Conway *et al.*, 2007). This represents 2.3% of the biogeographic population. The SPA suite supports approximately 46% of the UK population (Stroud *et al.*, 2016). The species is considered depleted and of conservation concern in Europe, it is a Amber listed Bird of Conservation Concern in the UK due to a recent decline in breeding range.

4.1.120 Nightjar breeding habitats include heathland, often with scattered pine or birch, woodland edges and clearings, young forestry plantations and, particularly in south-east England, coppiced woodland. Forestry plantations are used up to 15–20 years after planting. In clear-felled areas of Thetford Forest, nests have been found in a variety of habitats, including extensive, non-vegetated areas and sparse bracken. Birds forage over a variety of habitats including deciduous or mixed woods, orchards, gardens, riparian habitats and freshwater wetlands, heathland and young plantations.

4.1.121 Of the sites being assessed by the HRA, the following have been assessed as supporting internationally important populations:

- New Forest SPA; Nightjar *Caprimulgus europaeus*, 300 pairs representing at least 8.8% of the breeding population in Great Britain

4.1.122 The National Nightjar Survey recorded 781 churring males in Hampshire in 2004. This represents a 52% increase in numbers for the county since the previous survey was carried out in1992 (BTO 2004). Table 4.14 shows the percentage of Nightjars which are supported by the New Forest SPA.

Table 4.14: Distribution of Nightjars within SPA in Britain (JNCC, 2001)

Site Name	Site Total	% of Biogeographic Pop.	% of GB Pop.
Ashdown Forest	35	<0.1 1	1.0
Breckland	415	0.2	12.2
Dorset Heathland	386	0.2	11.4
East Devon Heaths	83	<0.1	2.4
Minsmere – Walberswick	24	<0.1	0.7
New Forest	300	0.1	8.8
Sandlings	109	<0.1	3.2
Thames Basin Heaths	264	0.1	7.8
Thorne and Hatfield Moors	66	<0.1	1.9
Wealden Heaths	103	<0.1	3.0

Woodlark

4.1.123 Woodlark *Lullula arborea* is widely distributed across Europe from Iberia to the Russian steppes but has a generally southern distribution, occurring only in the southernmost parts of Scandinavia and Britain. In the UK, breeding is confined to southern England with most birds occurring in Dorset, Hampshire (especially the New Forest), Surrey, Sussex, Breckland and the Suffolk Coast.

4.1.124 The UK population of breeding Woodlark is estimated at 3,100 pairs (Conway *et al.*, 2009) which represents 0.2% of the biogeographic population (Hagemeijer & Blair 1997), 31% of which are found within SPA sites for which this species is a qualifying feature. The species is considered depleted and of conservation concern in Europe.

4.1.125 Favoured breeding habitat is dependent on location, with birds in the south west using agricultural land, whilst those in the south are typically found on heathland such as that present in the New Forest. Migratory behaviour also varies across the species' English distribution. East Anglian birds largely desert their breeding grounds in the winter, although a greater proportion of the birds in southern England remain on breeding areas throughout the year.

4.1.126 Of the sites being assessed by the HRA, the following have been assessed as supporting internationally important populations:

- New Forest SPA; Woodlark *Lullula arborea*, 184 pairs representing at least 12.3% of the breeding population in Great Britain (Count as at 1997)

4.1.127 Table 4.15 shows the percentage of Woodlarks which are supported by the New Forest SPA.

Table 4.15: Distribution of Woodlarks within SPA in Britain (JNCC, 2001)

Site Name	Site Total	% of Biogeographic Pop.	% of GB Pop.
Breckland	430	<0.1	28.7
Dorset Heathland	60	<0.1	4.0
Minsmere – Walberswick	20	<0.1	1.3
New Forest	184	<0.1	12.3
Sandlings	154	<0.1	10.3
Thames Basin Heaths	149	<0.1	9.9
Wealden Heaths	105	<0.1	7.0

Honey Buzzard

4.1.128 The global breeding distribution of the Honey Buzzard *Pernis apivorus* is largely restricted to the Western Palearctic. The UK is at the edge of the European breeding range and the species has probably always been a rare, but scattered breeder.

4.1.129 The UK population of breeding Honey Buzzard is estimated at 33 pairs (Ogilvie, 2003) which represents 0.05% of the biogeographic population (Hagemeijer & Blair 1997), 12% of which are found within SPA sites for which this species is a qualifying feature. The species is not considered of conservation concern in Europe, but is an Amber listed Bird of Conservation Concern in the UK due to its small breeding population.

4.1.130 In the UK, Honey Buzzards occur in three broad habitat types: high-quality mixed deciduous forests in the lowlands of southern England, central hill country with mixed farmland/woodland, and upland, even-aged coniferous plantations. These habitats are also preferred elsewhere in Europe. Beech *Fagus* sp. forests with sandy, light soils have been favoured in the New Forest, traditionally regarded as the species stronghold, (The New Forest SPA supports 2 pairs representing 13% of the UK population JNCC 2001), largely thought to be due to the association of this habitat with an abundance of social wasps on which the species selectively feeds its young. However, breeding performance is not adversely affected by the temporary unavailability of wasps, as amphibians, and pigeon and passerine nestlings are taken in inclement weather.

4.1.131 Of the sites being assessed by the HRA, the following have been assessed as supporting internationally important populations:

- New Forest SPA; Honey Buzzard *Pernis apivorus*, 2 pairs representing at least 10.0% of the breeding population in Great Britain

Dartford Warbler

4.1.132 The global breeding range of the Dartford Warbler *Sylvia undata* is largely restricted to the western part of the Mediterranean region and almost the entire world population breeds in Europe, with more than 75% thought to breed in Spain and large numbers also occurring in southern and western France, southern Italy and Portugal.

4.1.133 Southern England is at the northern limit of the species world range. Here the main concentrations occur in Dorset, Hampshire and Surrey with smaller numbers in the south west and East Anglia.

4.1.134 The UK population of breeding Dartford Warbler is estimated at 3,200 pairs (Wotton *et al.*, 2009) which represents 0.5% of the biogeographic population (Hagemeijer & Blair 1997), 52% of which are found within SPA sites for which this species is a qualifying feature. The species is depleted in Europe and considered of most conservation concern; it is an Amber listed Bird of Conservation Concern in the UK due to its localised breeding population.

4.1.135 In Britain, the species is almost exclusively found on lowland dry heathland with Heather *Calluna vulgaris* and Gorse *Ulex spp*. Large areas of heathland typically hold higher densities of breeding birds than fragmented and isolated habitats, with up to 10-15 pairs/km2 present in the best areas. Territories containing Gorse *Ulex spp*. tend to be more productive (Catchpole & Phillips 1992), most likely due to the greater abundance of invertebrate prey and increased shelter during the winter. Birds generally remain on the breeding grounds throughout the year, although there is a partial migration of adults, notably in October.

4.1.136 Of the sites being assessed by the HRA, the following have been assessed as supporting internationally important populations:

- New Forest SPA; Dartford Warbler *Sylvia undata*, 538 pairs representing at least 33.6% of the breeding population in Great Britain

4.1.137 Table 4.16 shows the percentage of Dartford Warblers which are supported by the New Forest SPA.

Table 4.16: Distribution of Dartford Warblers within SPA in Britain (JNCC, 2001)

Site Name	Site Total	% of Biogeographic Pop.	% of GB Pop.
Ashdown Forest	29	<0.1	1.8
Dorset Heathland	418	<0.1	26.1
East Devon Heathlands	128	<0.1	8.0
New Forest	538	<0.1	33.6
Thames Basin Heaths	445	<0.1	27.8
Wealden Heaths	123	<0.1	7.7

Hen Harrier

4.1.138 Hen Harriers *Circus cyaneus* have a widespread global distribution In the Palearctic, migrants winter in southern parts of Europe, the Middle East and through southern areas of central and eastern Asia, although hen harriers breeding in Europe tend to be more sedentary. In the UK, breeding is now confined to Northern Ireland, and northern and western Britain, especially Scotland.

4.1.139 The winter distribution of Hen Harriers in the UK significantly differs from that during the breeding season. In autumn, birds disperse from many moorland nesting areas and move to

winter in lowlands, especially around the coast. There are significant concentrations on the south and east coast of England, especially within the East Anglia estuaries, the Greater Thames estuary and Solent area.

4.1.140 The UK population of non-breeding Hen Harrier is estimated at 1,710 individuals (Holling *et al.* 2012) which represents approximately 3.7% of the biogeographic population (Hagermeyer and Blair 1997), 15% of which are found within SPA sites for which this species is a qualifying feature. It is also estimated that 483 pairs of breeding birds are resident in the UK (JNCC 2013). The New Forest population is considered to be non-breeding. The species is considered a depleted species of most conservation concern in Europe and is a Red listed Bird of Conservation Concern in the UK due to historical population decline.

4.1.141 Hen Harriers hunt especially over salt-marshes taking small passerines, small mammals and waders. Hen Harriers also occur in lowland heaths and on chalk downland, with significant winter concentrations in Hampshire and Dorset, on downland in Oxfordshire, Berkshire and Wiltshire, as well as in the East Anglia Brecks. During winter, Hen Harriers gather at communal roost sites at night. These can hold significant numbers of individuals (sometimes over 20) and are usually located in wetlands such as carr woodland, marshes and reedbeds, although they sometimes occur on heather moorland, lowland heath and conifer plantations.

4.1.142 Of the sites being assessed by the HRA, the following have been assessed as supporting internationally important populations:

- New Forest SPA; 15 individuals representing at least 2.0% of the wintering population in Great Britain

4.1.143 Table 4.17 shows the percentage of Hen Harriers which are supported by the New Forest SPA.

Table 4.17: Distribution of Hen Harriers within SPA in Britain (JNCC, 2001)

Site Name	Site Total	% of Biogeographic Pop.	% of GB Pop.
Blackwater Estuary	4	<0.1	0.5
Broadland	22	<0.1	2.9
Colne Estuary	4	<0.1	0.5
Dengie	5	<0.1	0.7
Dorset Heathlands	20	<0.1	2.7
Foulness	6	<0.1	0.8
Humber Flats, Marshes & Coast	20	<0.1	2.7
Loch of Inch and Torrs Warren	8	<0.1	1.1
Minsmere - Walberswick	15	<0.1	2.0
Muirkirk & North Lowther Uplands	10	<0.1	1.3
New Forest	15	<0.1	2.0
North Norfolk Coast	16	<0.1	2.1
Orkney Mainland Moors	13	<0.1	1.7

4.2 Qualifying Species of Special Areas of Conservation

4.2.1 The following summaries have been adapted from the descriptions published by the Joint Nature Conservancy Committee[6] together with a review of other available literature on the behaviour and ecology of these species.

Southern Damselfly

4.2.2 The Southern Damselfly *Coenagrion mercuriale* has very specialised habitat requirements, being confined to shallow, well-vegetated, base-rich runnels and flushes in open areas or small side-channels of chalk rivers. Most sites are on wet heath.

4.2.3 The larvae live in flushes and shallow runnels, often less than 10cm deep, with slow-flowing water. Adults fly from June to August. Females lay eggs onto submerged plants, and the predatory aquatic larvae probably take two years to mature.

4.2.4 Strong populations of southern damselfly occur in the River Itchen SAC, estimated to be in the hundreds of individuals. The site in central southern England represents one of the major population centres in the UK. It also represents a population in a managed chalk-river flood plain, an unusual habitat for this species in the UK, rather than on heathland.

4.2.5 The New Forest SAC in central southern England is an outstanding locality for Southern Damselfly, with several population centres and strong populations estimated to be in the hundreds or thousands of individuals. The heathland habitat on which it occurs is more typical for the species.

Stag Beetle

4.2.6 The stag beetle *Lucanus cervus* is the UK's largest terrestrial beetle, and amongst the most spectacular, reaching 7cm in length. Larvae develop in decaying tree stumps and fallen timber of broad-leaved trees in contact with the ground.

4.2.7 Development takes around 3-4 years. Adults are active on warm evenings, but probably only the males fly regularly and come readily to lights. Adults have been recorded from May to September or even October, though they are most abundant in early summer.

4.2.8 The New Forest represents stag beetle in its Hampshire/Sussex population centre, and is a major stronghold for the species in the UK. The forest is one of the most important sites in the UK for fauna associated with rotting wood, and was identified as of potential international importance for its saproxylic invertebrate fauna by the Council of Europe (Speight 1989).

Great Crested Newt

4.2.9 The Great Crested Newt *Triturus cristatus* is the largest native British newt, reaching up to around 17cm length. Adult males have jagged crests running along the body and tail. Newts require aquatic habitats for breeding. Eggs are laid singly on pond vegetation in spring, and larvae develop over summer to emerge in August – October, normally taking 2–4 years to reach

[6] http://jncc.defra.gov.uk/ProtectedSites/SACselection/SAC_species.asp

maturity. Juveniles spend most time on land, and all terrestrial phases may range a considerable distance from breeding sites.

4.2.10 The Great Crested Newt widespread throughout much of England and Wales, but occurs only sparsely in south-west England, mid Wales and Scotland. It is absent from Northern Ireland. The total UK population is relatively large and is distributed over sites that vary greatly in their ecological character. One estimate has put the national population at around 400,000 animals in 18,000 breeding sites. Many of the largest populations are centred on disused mineral-extraction sites, but lowland farmland forms the majority of great crested newt habitat in the UK.

4.2.11 Approximately 45 breeding populations are known within Hampshire, and these are concentrated along the south coast and eastern border of the county. Although the New Forest ponds are relatively well known, a comprehensive survey of ponds and their species has never been carried out across most of Hampshire. Thus, further populations may exist elsewhere (Hampshire Biodiversity Partnership 2000).

Bullhead

4.2.12 The bullhead *Cottus gobio* is a small bottom-living fish that inhabits a variety of rivers, streams and stony lakes. It appears to favour fast-flowing, clear shallow water with a hard substrate (gravel/cobble/pebble) and is frequently found in the headwaters of upland streams. However, it also occurs in lowland situations on softer substrates so long as the water is well-oxygenated and there is sufficient cover. It is not found in badly polluted rivers.

4.2.13 The Itchen is a classic chalk river that supports high densities of bullhead throughout much of its length. The river provides good water quality, extensive beds of submerged plants that act as a refuge for the species, and coarse sediments that are vital for spawning and juvenile development.

White-clawed Crayfish

4.2.14 The white-clawed crayfish *Austropotamobius pallipes* (also known as the Atlantic Stream Crayfish), lives in a diverse variety of clean aquatic habitats but especially favours hard-water streams and rivers.

4.2.15 In Britain the most significant threats to the survival of this species are posed by non-native crayfish species such as the North American Signal Crayfish *Pacifastacus leniusculus*, which out-competes, White-clawed crayfish and by crayfish plague Crayfish plague which can be introduced into a waterbody by entry of signal crayfish and also by water, fish or equipment that has been in contact with signals.

4.2.16 In Hampshire there are few records prior to the 1980s. The River Itchen, formerly believed to be a stronghold for the species, was still supporting white-clawed crayfish along much of its length up until the mid- 1990s. However, the future of this species in Hampshire is very uncertain; it is believed to be critically endangered and is unlikely to survive in the county unless factors responsible for its decline can be addressed (Hampshire Biodiversity Partnership 2000).

Brook Lamprey

4.2.17 The Brook Lamprey *Lampetra planeri* is a primitive, jawless fish resembling an eel, and is the smallest of the lampreys found in the UK. Like other lamprey species, the brook lamprey requires clean gravel beds for spawning and soft marginal silt or sand for the larvae. It spawns mostly in parts of the river where the current is not too strong.

4.2.18 The River Itchen is an extensive river systems, including important tributaries, which provides conservation of the range of habitat features, such as suitable areas of gravels, silt or sand required for spawning, required by the species.

Otter

4.2.19 The otter *Lutra lutra* is a semi-aquatic mammal, which occurs in a wide range of ecological conditions, including inland freshwater and coastal areas (particularly in Scotland). Inland populations utilise a range of running and standing freshwaters. These must have an abundant supply of food (normally associated with high water quality), together with suitable habitat, such as vegetated river banks, islands, reedbeds and woodland, which are used for foraging, breeding and resting.

4.2.20 Before 1960, otters utilised most river catchments in Hampshire. Yet a comprehensive survey in 1989/901 revealed the presence of otters on only three river catchments in the county. Additional surveys and monitoring have identified otters on the River Avon, scant evidence within the New Forest particularly the lower Lymington River and Keyhaven Marshes and a breeding population in the River Itchen catchment (Hampshire Biodiversity Partnership 2000).

4.2.21 The Itchen otter population follows the release of three captive-bred animals in 1993 to the River Itchen to boost its natural and isolated remnant population, this catchment continues to support the strongest otter population in Hampshire (Hampshire Biodiversity Partnership 2000).

Atlantic Salmon

4.2.22 The Atlantic salmon *Salmo salar* is an anadromous species (i.e. adults migrate from the sea to breed in freshwater). Spawning takes place in shallow excavations called redds, found in shallow gravelly areas in clean rivers and streams where the water flows swiftly. The young that emerge spread out into other parts of the river. After a period of 1-6 years the young salmon migrate downstream to the sea as 'smolts'. Salmon have a homing instinct that draws them back to spawn in the river of their birth after 1-3 years in the sea. This behaviour has resulted in genetically distinct stock between rivers and even within individual rivers, with some evidence of further genetic distinctiveness in the tributaries of large rivers.

4.2.23 The Atlantic salmon is a widespread species in the UK and is found in several hundred rivers, many of which have adult runs in excess of 1000. The latest estimates of the UK spawning population size (ICES 2000) are, however, about 50% down on the ten-year average. This decrease could be due to a number of factors including: pollution, the introduction of non-native salmon stocks, physical barriers to migration, exploitation from netting and angling, physical degradation of spawning and nursery habitat, and increased marine mortality.

4.3 Qualifying Habitats of Special Areas of Conservation

4.3.1 The following accounts are adapted from the JNCC site descriptions of the four SACs (New Forest, Butser Hill, River Itchen and Solent Maritime), which are considered in the HRA[7].

Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae)

4.3.2 Hatchet Pond in the New Forest in the south of England is in fact three ponds, one of which is an example of an oligotrophic waterbody amidst wet and dry lowland heath developed over fluvial deposits. It contains shoreweed *Littorella uniflora* and isolated populations of northern species such as bog orchid *Hammarbya paludosa* and floating bur-reed *Sparganium angustifolium*, alongside rare southern species such as Hampshire-purslane *Ludwigia palustris*. Hatchet Pond is therefore important as a southern example of this lake type where northern species, more common in the uplands of the UK, co-exist with southern species.

Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoëto-Nanojuncetea

4.3.3 In the New Forest vegetation of the *Littorelletea uniflorae* and/or of the *Isoëto-Nanojuncetea* occurs on the edge of large temporary ponds, shallow ephemeral pools and poached damp hollows in grassland, which support a number of specialist species in a zone with toad rush *Juncus bufonius*. These include the two nationally scarce species coral-necklace *Illecebrum verticillatum* and yellow centaury *Cicendia filiformis*, often in association with allseed *Radiola linoidesand* chaffweed *Anagallis minima*. Heavy grazing pressure is of prime importance in the maintenance of the outstanding flora of these temporary pond communities. Livestock maintain an open habitat, controlling scrub ingress, and trampling the surface. Commoners' animals also transport seed in their hooves widely from pond to pond where suitable habitat exists. Temporary ponds occur throughout the Forest in depressions capable of holding water for part of the year. Most ponds are small (between 5-10m across) and, although great in number, amount to less than 10ha in total area.

Northern Atlantic wet heaths with Erica tetralix

4.3.4 The New Forest contains the most extensive stands of lowland northern Atlantic wet heaths in southern England, mainly of the M16 *Erica tetralix – Sphagnum compactum* type. M14 *Schoenus nigricans– Narthecium ossifragum* mire is also found on this site. The wet heaths are important for rare plants, such as marsh gentian *Gentiana pneumonanthe* and marsh clubmoss *Lycopodiella inundata*, and a number of dragonfly species, including the scarce blue-tailed damselfly and small red damselfly *Ceriagrion tenellum*. There is a wide range of transitions between wet heath and other habitats, including dry heath, various woodland types, *Molinia* grasslands, fen, and acid grassland. Wet heaths enriched by bog myrtle *Myrica gale* are a prominent feature of many areas of the Forest. Unlike much lowland heath, the New Forest heaths continue to be extensively grazed by cattle and horses, favouring species with low competitive ability.

[7] http://jncc.defra.gov.uk/ProtectedSites/SACselection/SAC_habitats.asp

European dry heaths

4.3.5 The New Forest represents European dry heaths in southern England and is the largest area of lowland heathland in the UK. It is particularly important for the diversity of its habitats and the range of rare and scarce species which it supports. The New Forest is unusual because of its long history of grazing in a traditional fashion by ponies and cattle. The dry heaths of the New Forest are of the H2 Calluna vulgaris – Ulex minor heath type, and H3 Ulex minor – Agrostis curtisii heath is found on damper areas. There are a wide range of transitions between dry heath and wet heath, Molinia grassland, fen, acid grassland and various types of scrub and woodland. Both the New Forest and the two Dorset Heath SACs are in southern England. All three areas are selected because together they contain a high proportion of all the lowland European dry heaths in the UK. There are, however, significant differences in the ecology of the two areas, associated with more oceanic conditions in Dorset and the continuous history of grazing in the New Forest.

Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)

4.3.6 The New Forest represents *Molinia* meadows in southern England. The site supports a large area of the heathy form of M24 Molinia *caerulea–Cirsium dissectum* fen-meadow. This vegetation occurs in situations of heavy grazing by ponies and cattle in areas known locally as 'lawns', often in a fine-scale mosaic with 4010 Northern Atlantic wet heaths and other mire and grassland communities. These lawns occur on flushed soils on slopes and on level terrain on the floodplains of rivers and streams. The New Forest *Molinia* meadows are unusual in the UK in terms of their species composition, management and landscape position. The grasslands are species-rich, and a particular feature is the abundance of small sedges such as carnation sedge *Carex panicea*, common sedge *C. nigra* and yellow-sedge *C. viridula ssp. oedocarpa*, and the more frequent occurrence of mat-grass *Nardus stricta* and petty whin *Genista anglica* compared to stands elsewhere in the UK.

Depressions on peat substrate of the Rhynchosporion

4.3.7 The New Forest, one of three sites selected in southern England, is considered to hold the largest area in England of Depressions on peat substrates of the *Rhynchosporion*, in complex habitat mosaics associated primarily with the extensive valley bogs of this site. The habitat type is developed in three situations: in natural bog pools of patterned bog surfaces, in flushes on the margins of valley mires and in areas disturbed by peat-digging, footpaths, tracks, ditches etc. In places the habitat type is rich in brown mosses *Cratoneuron spp.* and *Scorpidium scorpioides*, suggesting flushing by mineral-rich waters. The mosaics in which this habitat type occurs are an important location for bog orchid *Hammarbya paludosa*

Atlantic acidophilous beech forests with Ilex and sometimes also Taxus in the shrublayer (Quercion robori-petraeae or Ilici-Fagenion)

4.3.8 The New Forest is the largest area of mature, semi-natural beech *Fagus sylvatica* woodland in Britain and represents Atlantic acidophilous beech forests in the most southerly part of the habitat's UK range. The mosaic with other types of woodland and heath has allowed unique and varied assemblages of epiphytic lichens and saproxylic invertebrates to be sustained,

particularly in situations where the woodland is open and the tree trunks receive plenty of light. The traditional common grazing in the Forest by cattle and ponies provides opportunities to explore the impact of large herbivores on the woodland system.

Asperulo-Fagetum beech forests

4.3.9 The New Forest is the largest area of mature, semi-natural beechen *Fagus sylvatica* woodland in Britain; much of it is a form of W14 *Fagus sylvatica – Rubus fruticosus* woodland that conforms to the Annex I type *Asperulo-Fagetum* beech forests. The mosaic with other types of woodland and heath has allowed unique and varied assemblages of epiphytic lichens and saproxylic invertebrates to be sustained, particularly in situations where the woodlands are open and the tree trunks receive plenty of light. The traditional common grazing in the Forest by cattle and ponies provides opportunities to explore the impact of large herbivores on the woodland system.

Old acidophilous oak woods with Quercus robur on sandy plains

4.3.10 The New Forest is representative of old acidophilous oak woods in the southern part of its UK range. It is the most extensive area of active wood-pasture with old oak *Quercus spp.* and beech *Fagus sylvatica* in north-west Europe and has outstanding invertebrate and lichen populations. This site was preferred over other sites that lack a succession of age-classes because, although scattered over a wide area, the oak stands are found within a predominantly semi-natural landscape with a more balanced age-structure of trees. The traditional common grazing in the Forest by cattle and ponies provides opportunities to explore the impact of large herbivores on the woodland system. The New Forest has been identified as of potential international importance for its saproxylic invertebrate fauna by the Council of Europe (Speight 1989).

Bog woodland Priority feature

4.3.11 Within the New Forest, in southern England, birch – willow *Betula – Salix* stands occur over valley bog vegetation, with fringing alder *Alnus – Sphagnum* stands where there is some water movement. These stands appear to have persisted for long periods in stable association with the underlying *Sphagnum* bog-moss communities. The rich epiphytic lichen communities and pollen record provide evidence for the persistence of this association. The Bog woodland occurs in association with a range of other habitats for which the site has also been selected

Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) Priority feature

4.3.12 The New Forest contains many streams and some small rivers that are less affected by drainage and canalisation than those in any other comparable area in the lowlands of England. Associated with many of the streams, particularly those with alkaline and neutral groundwater, are strips of alder *Alnus glutinosa* woodland which, collectively, form an extensive resource with a rich flora. In places there are examples of transitions from open water through reed swamp and fen to alder woodland. The small rivers show natural meanders and debris dams, features that are otherwise rare in the lowlands, with fragmentary ash *Fraxinus excelsior* stands as well as

the alder strips. In other places there are transitions to Old acidophilous oak woods with *Quercus robur* on sandy plains and Atlantic acidophilous beech forests with *Ilex* and sometimes also *Taxus* in the shrublayer (*Quercion robori-petraeae* or *Ilici-Fagenion*), for which this site has also been selected.

Transition mires and quaking bogs

4.3.13 The term 'transition mire' relates to vegetation that in floristic composition and general ecological characteristics is transitional between acid bog and Alkaline fens, in which the surface conditions range from markedly acidic to slightly base-rich. The vegetation normally has intimate mixtures of species considered to be acidophile and others thought of as calciphile or basophile. In some cases the mire occupies a physically transitional location between bog and fen vegetation, as for example on the marginal lagg of raised bog or associated with certain valley and basin mires. In other cases these intermediate properties may reflect the actual process of succession, as peat accumulates in groundwater-fed fen or open water to produce rainwater-fed bog isolated from groundwater influence. Many of these systems are very unstable underfoot and can therefore also be described as 'quaking bogs'.

4.3.14 The following NVC communities form the core of transition mire vegetation in the UK:

- M4 *Carex rostrata – Sphagnum recurvum* mire
- M5 *Carex rostrata – Sphagnum squarrosum* mire
- M8 *Carex rostrata – Sphagnum warnstorfii* mire
- M9 *Carex rostrata – Calliergon cuspidatum/giganteum* mire
- S27 *Carex rostrata – Potentilla palustre* tall-herb fen

4.3.15 However this is not an exhaustive list and numerous other communities form important components of some mire sites.

Alkaline fens

4.3.16 Alkaline fens consist of a complex assemblage of vegetation types characteristic of sites where there is tufa and/or peat formation with a high water table and a calcareous base-rich water supply. The core vegetation is short sedge mire (mire with low-growing sedge vegetation) of the following NVC types:

- *M9 Carex rostrata – Calliergon cuspidatum/giganteum mire*
- *M10 Carex dioica – Pinguicula vulgaris mire*
- M13 *Schoenus nigricans – Juncus subnodulosus mire*

4.3.17 At most sites there are well-marked transitions to a range of other fen vegetation, predominantly, but not exclusively, to M14 *Schoenus nigricans – Narthecium ossifragum* mire and S24 *Phragmites australis – Peucedanum palustre* tall-herb fen in the lowlands.

Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia)

4.3.18 Butser Hill is situated on the east Hampshire chalk which forms part of the South Downs. Much of the site consists of CG2*Festuca ovina – Avenula pratense* grassland. The site has a varied range of slope gradients and aspects which has a strong influence on the vegetation composition. A particular feature of the site is its lower plant assemblage. It has the richest terricolous lichen flora of any chalk grassland site in England, and also supports the distinctive *Scapanietum asperae* or southern hepatic mat association of leafy liverworts and mosses on north-facing chalk slopes. This association is very rare in the UK and Butser Hill supports the largest known example. The site exhibits various transitions between semi-natural dry grassland, chalk heath, mixed scrub and *Taxus baccata* woods.

Taxus baccata woods of the British Isles Priority feature

4.3.19 The combes of the south-east flank of Butser Hill support dense yew *Taxus baccata* woodland in association with scrub and chalk grassland. The yew is regenerating into the grassland and shows the classic interaction of these habitats in relation to grazing pressure.

Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation

4.3.20 The Itchen is a classic example of a sub-type 1 chalk river. The river is dominated throughout by aquatic *Ranunculus spp*. The headwaters contain pond water-crowfoot *Ranunculus peltatus*, while two *Ranunculus* species occur further downstream: stream water-crowfoot *R. penicillatus ssp. pseudofluitans*, a species especially characteristic of calcium-rich rivers, and river water-crowfoot *R. fluitans*.

Estuaries

4.3.21 The Solent encompasses a major estuarine system on the south coast of England with four coastal plain estuaries (Yar, Medina, King's Quay Shore, Hamble) and four bar-buil estuaries (Newtown Harbour, Beaulieu, Langstone Harbour, Chichester Harbour). The site is the only one in the series to contain more than one physiographic sub-type of estuary and is the only cluster site. The Solent and its inlets are unique in Britain and Europe for their hydrographic regime of four tides each day, and for the complexity of the marine and estuarine habitats present within the area. Sediment habitats within the estuaries include extensive estuarine flats, often with intertidal areas supporting eelgrass Zostera spp. and green algae, sand and shingle spits, and natural shoreline transitions. The mudflats range from low and variable salinity in the upper reaches of the estuaries to very sheltered almost fully marine muds in Chichester and Langstone Harbours. Unusual features include the presence of very rare sponges in the Yar estuary and a sandy 'reef' of the polychaete *Sabellaria spinulosa* on the steep eastern side of the entrance to Chichester Harbour.

Spartina swards (Spartinion maritimae)

4.3.22 Solent Maritime is the only site for smooth cord-grass *Spartina alterniflora* in the UK and is one of only two sites where significant amounts of small cord-grass *S. maritime* are found. It is also

one of the few remaining sites for Townsend's cord-grass *S.*x *townsendii* and holds extensive areas of common cord-grass *Spartina anglica*, all four taxa thus occurring here in close proximity. It has additional historical and scientific interest as the site where *S. alterniflora* was first recorded in the UK (1829) and where *S.* x *townsendii* and, later, *S. anglica* first occurred

Atlantic salt meadows (Glauco-Puccinellietalia maritimae)

4.3.23 The Solent contains the second-largest aggregation of Atlantic salt meadows in south and south-west England. Solent Maritime is a composite site composed of a large number of separate areas of saltmarsh. In contrast to the Severn estuary, the salt meadows at this site are notable as being representative of the ungrazed type and support a different range of communities dominated by sea-purslane *Atriplex portulacoides*, common sea-lavender *Limonium vulgare* and thrift *Armeria maritima*. As a whole the site is less truncated by man-made features than other parts of the south coast and shows rare and unusual transitions to freshwater reedswamp and alluvial woodland as well as coastal grassland. Typical Atlantic salt meadow is still widespread in this site, despite a long history of colonisation by cord-grass *Spartina spp*.

Sandbanks which are slightly covered by sea water all the time

4.3.24 Sandbanks which are slightly covered by sea water all the time consist of sandy sediments that are permanently covered by shallow sea water, typically at depths of less than 20m below chart datum (but sometimes including channels or other areas greater than 20m deep). The habitat comprises distinct banks (i.e. elongated, rounded or irregular 'mound' shapes) which may arise from horizontal or sloping plains of sandy sediment.

4.3.25 Shallow sandy sediments are typically colonised by a burrowing fauna of worms, crustaceans, bivalve molluscs and echinoderms. Mobile epifauna at the surface of the sandbank may include shrimps, gastropod molluscs, crabs and fish. Sand-eels *Ammodytes* spp., an important food for birds, live in sandy sediments. Where coarse stable material, such as shells, stones or maerl is present on the sediment surface, species of foliose seaweeds, hydroids, bryozoans and ascidians may form distinctive communities. Shallow sandy sediments are often important nursery areas for fish, and feeding grounds for seabirds (especially puffins *Fratercula arctica*, guillemots *Uria aalge* and razorbills *Alca torda*) and sea-duck (e.g. common scoter *Melanitta nigra*).

Mudflats and sandflats not covered by water at low tide

4.3.26 Intertidal mudflats and sandflats are submerged at high tide and exposed at low tide. They form a major component of the qualifying habitats Estuaries and Large shallow inlets and bays in the UK but also occur extensively along the open coast and in lagoonal inlets. The physical structure of the intertidal flats ranges from mobile, coarse-sand beaches on wave-exposed coasts to stable, fine-sediment mudflats in estuaries and other marine inlets. This habitat type can be divided into three broad categories (clean sands, muddy sands and muds); although in practice there is a continuous gradation between them. Within this range the plant and animal communities present vary according to the type of sediment, its stability and the salinity of the water.

Coastal Lagoons Priority feature

4.3.27 Coastal lagoons are areas of shallow, coastal salt water, wholly or partially separated from the sea by sandbanks, shingle or, less frequently, rocks. Lagoons show a wide range of geographical and ecological variation; five main sub-types have been identified in the UK, on the basis of their physiography, as meeting the definition of the Annex I habitat type; Isolated lagoons, percolation lagoons, silled lagoons, sluiced lagoons and lagoonal inlets.

Annual vegetation of drift lines

4.3.28 This habitat type occurs on deposits of shingle lying at or above mean high-water spring tides. The types of deposits involved are generally at the lower end of the size range of shingle (2-200 mm diameter), with varying amounts of sand interspersed in the shingle matrix. These shingle deposits occur as fringing beaches that are subject to periodic displacement or overtopping by high tides and storms. The distinctive vegetation, which may form only sparse cover, is therefore ephemeral and composed of annual or short-lived perennial species.

4.3.29 In the UK this habitat type is not always easy to classify using the NVC because it is highly variable between sites and from year to year at the same site. It can include NVC types SD2 *Honkenya peploides –Cakile maritime* strandline community and SD3 *Matricaria maritima – Galium aparine* strandline community on stony substrates. MC6 *Atriplex prostrata – Beta vulgaris ssp.* Maritime sea-bird cliff community and other vegetation with abundant orache Atriplex spp. may also occur on shingle shores.

Perennial vegetation of stony banks

4.3.30 Shingle structures develop when a sequence of foreshore beaches is deposited at the limit of high tide. More permanent ridges are formed as storm waves throw pebbles high up on the beach, from where the backwash cannot remove them. Several beaches may be piled against each other and extensive structures can form. The ecological variation in this habitat type depends on stability, the amount of fine material accumulating between pebbles, climatic conditions, width of the foreshore, and past management of the site. The ridges and lows formed also influence the vegetation patterns, resulting in characteristic zonations of vegetated and bare shingle.

Salicornia and other annuals colonising mud and sand

4.3.31 This pioneer saltmarsh vegetation colonises intertidal mud and sandflats in areas protected from strong wave action and is an important precursor to the development of more stable saltmarsh vegetation. It develops at the lower reaches of saltmarshes where the vegetation is frequently flooded by the tide, and can also colonise open creek sides, depressions or pans within saltmarshes, as well as disturbed areas of upper saltmarshes.

4.3.32 There is little variation within this habitat type, which typically comprises a small number of species. The following NVC types are represented: SM7 *Arthrocnemum perenne* stands, SM8 Annual *Salicornia* salt-marsh community, SM9 *Suaeda maritime* salt-marsh community, SM27 Ephemeral salt-marsh vegetation with *Sagina maritime*. The first three communities include open stands of perennial glasswort *Sarcocornia perennis*, glasswort *Salicornia* spp., or annual

seablite *Suaeda maritima*. The density of these plants can vary and may be lower on sites with sandier substrates. Other species that may be found include common saltmarsh-grass *Puccinellia maritima*, common cord-grass *Spartina anglica* and sea aster *Aster tripolium*. *Sarcocornia perennis* is absent from Scotland. A further form of the habitat (SM27) consists of ephemeral vegetation colonising open pans in upper saltmarshes. Characteristic plants of this vegetation type include sea pearlwort *Sagina maritime* and knotted pearlwort *S. nodosa.*

Shifting dunes along the shoreline with Ammophila arenaria (`white dunes`)

4.3.33 This habitat type encompasses most of the vegetation of unstable dunes where there is active sand movement. Under these conditions sand-binding marram *Ammophila Arenaria* is always a prominent feature of the vegetation and is usually dominant. In the UK the majority of such vegetation falls within NVC type SD6 *Ammophila Arenaria* mobile dune community. This is a dynamic vegetation type maintained only by change. It can occur on both accreting and eroding dunes, but will rapidly change and disappear if stability is imposed.

5 Identifying Impact Pathways

5.1 Introduction

5.1.1 This chapter discusses the available evidence relating to the pathways of impact to European sites. These can be broadly divided into strategically-operating impacts and site-specific impacts.

5.2 Strategic Impacts

5.2.1 Strategic impacts are those which operate across administrative boundaries where the causes are multi-locational and act in combination, sometimes over long distances, and potentially lead to adverse effects on the integrity of European sites. In South Hampshire these include:

- Atmospheric pollution, principally from road traffic sources;
- Disturbance from recreational pressure;
- Water abstraction to supply new developments; and
- Water pollution as a result of sewage treatment and discharge.

5.3 Atmospheric Pollution

5.3.1 Atmospheric pollution is a widespread issue, with background air quality heavily influenced by large point-source emitters including transboundary sources. Local pollutant sources can affect designated sites, particularly in relation to protected habitats within SACs, and especially from road traffic emissions. The Local Plan cannot feasibly influence causes of background pollution such as large point sources but, through the scale of development proposed, road network and sustainable transport measures, will affect the way in which locally emitted pollutants reach each site.

5.3.2 The main pollutant effects of interest are acid deposition and eutrophication by nitrogen deposition. The following brief descriptions draw on information presented through the Air Pollution Information System[8] (APIS).

5.3.3 Acid deposition: caused by oxides of nitrogen (NO_X) (or sulphur dioxide) reacting with rain/cloudwater to form nitric (or sulphuric) acid, and is caused primarily by energy generation, as well as road traffic and industrial combustion. Both wet and dry acid deposition have been implicated in the damage and destruction of vegetation (heather, mosses, liverworts and lichens are particularly susceptible to cell membrane damage due to excessive pollutant levels) and in the degradation of soils and watercourses (including acidification and reduced microbial activity).

[8] Online at: http://www.apis.ac.uk [Accessed 23/5/17]

5.3.4 Eutrophication by nitrogen deposition: consists of the input of nitrogen from NO_X (and sometimes ammonia) emissions by deposition, and is caused primarily by road traffic, as well as energy generation, industrial combustion and agricultural practices. Nitrogen deposition can cause direct damage to heather, mosses, liverworts and lichens, as well as other plant species, because of their sensitivity to additional atmospheric nitrogen inputs, whilst deposition can also lead to long term compositional changes in vegetation and reduced diversity. For example a marked decline in heather and an increased dominance of grasses have been observed throughout the Netherlands and also in the East Anglian Brecklands (see for example Bobbink et al (1993) and Pitcairn et al (1991)).

5.3.5 Furthermore, while plants are able to detoxify and assimilate low exposure to atmospheric concentrations of NO_X, high levels of uptake can lead to detrimental impacts including:

- Inhibition of pigment biosynthesis, leading to reduced rates of photosynthesis;
- Water soaking as NO_2 molecules attach to lipids in membranes, causing plasmolysis (removal of water) and eventually necrosis;
- Inhibition of lipid biosynthesis, leading to reduced rates of regeneration and growth;
- Injury to mitochondria and plastids, essential to internal processing of energy & proteins;
- Decrease in stomatal conductance of air and water vapour; and
- Inhibition of carbon fixation (at least under low light levels).

5.3.6 Over half of all emissions of nitrogen and nitrogen oxides in the UK are the result of vehicle exhausts, with an estimated 92% of those associated with residential development being contributed by road traffic (Dore *et al*, 2005). Nitrogen emissions from traffic generated by residential and commercial developments will therefore be the focus of this part of the assessment. The scope can be further refined by concentrating on traffic growth on roads within 200m of European sites, as beyond 200m effects of emissions from this source diminish to the equivalent of background levels (Laxen & Wilson (2002)).

5.3.7 A Partnership for Urban South Hampshire (PUSH) research report (AEAT, 2010) notes that the critical load or level for each of these pollutant classes is already exceeded or approaching exceedance at background locations, away from roads across large parts of the sub-region. Nilsson and Grennfelt (1988) define critical loads and levels as "*a quantitative estimate of exposure to one or more pollutants below which significant harmful effects on specified sensitive elements of the environment do not occur according to present knowledge*". Critical loads concern the quantity of pollutants deposited from the air to the ground (for example nitrogen deposition and acid deposition), whilst critical levels concern the gaseous concentration of a pollutant in the air (for example nitrogen oxides).

5.3.8 PUSH commissioned a new air quality study earlier in 2017. This study will assess baseline and future year traffic-related pollution on European sites within and beyond the study area as a result of the proposed development and growth within the sub-region. This will take into account strategic development locations and associated transport infrastructure which may have implications for air quality. The final report is due later in 2017. Given the relatively early stage of plan-making and high degree of relevance this study will have to the HRA, it was

considered necessary to await the final report before assessing the likely significant effects of the Local Plan in detail.

Other plans and projects acting in combination

5.3.9 The following plans/projects identified at the screening stage may also contribute to road traffic emissions:

- Strategic development at Boorley Green, Eastleigh borough
- Strategic development at West of Waterlooville, Havant borough
- Strategic development at Tipner and Horsea Island, Portsmouth
- Strategic development at North of Whiteley, Winchester district
- Eastleigh Borough Adopted Local Plan Review 2001-2011 (adopted 2006)
- Eastleigh Borough Draft Local Plan 2011-2036
- Fareham Borough Welborne Plan (adopted 2015)
- Gosport Borough Local Plan 2011 to 2029 (adopted 2015)
- The Portsmouth Plan (adopted 2012)
- Portsmouth City Draft Local Plan 2014-2034
- Winchester District Local Plan Part 1 - Joint Core Strategy (adopted 2013)
- Winchester District Local Plan Part 2 – Development Management and Site Allocations (adopted 2013)
- Hampshire Local Transport Plan (2011-2031)
- Joint Hampshire Minerals and Waste Plan (adopted 2013) (includes Portsmouth, Southampton, New Forest National Park and South Downs National Park)

5.4 Disturbance

5.4.1 Particular concerns have been expressed in recent years regarding the likelihood of planned developments to increase human activity within and close to European designations at the Solent coastline. Murison *et al.* (2007) noted that birds often react to human disturbance as a form of predation risk. Such a response can include elevated heart rate, heightened defensive behaviour, including evasive measures, and the avoidance of high risk areas (Murison *et al.* (2007), Liley & Sutherland (2007)). High levels of human activity in important nature conservation areas might then change the behaviour of animals to such a degree that conservation priorities become compromised. This may result from reduced breeding success, increased energetic expenditure, predation, or exposure of nests, eggs or young to trampling and the elements (Liley & Sutherland, 2007).

5.4.2 Disturbance can be caused by a wide variety of activities and, generally, both distance from the source of disturbance and the scale of the event will influence the nature of the response. Factors such as habitat, food requirements, breeding behaviour, cold weather, variations in

food availability and flock size, will influence birds' abilities to respond to disturbance and hence the scale of the impact (Stillman *et al,* 2009). On the other hand, birds can modify their behaviour to compensate for disturbance, for example by feeding for longer time periods. Some birds can become habituated to particular disturbance events or types of disturbance, and this habituation can develop over short time periods (Stillman *et al,* 2009).

5.4.3 The Solent Disturbance and Mitigation Project was initiated in response to concerns over the impact of disturbance on coastal designated sites and their overwintering bird assemblage. It began in 2008 and in 2009 a Phase 1 report (Literature Review and Interviews) was issued (Stillman *et al*, 2009). Phase 2 was a primary research phase, which issued reports on the results of on-site visitor surveys (Fearnley *et al*, 2010), bird disturbance fieldwork (Liley *et al*, 2011), household surveys and future visitor modelling (Fearnely *et al*, 2011) and disturbance impact modelling (Stillman *et al*, 2012). Phase 3 outlined an avoidance and mitigation strategy to prevent adverse effects on overwintering bird populations around the Solent (Liley & Tyldesley, 2013).

5.4.4 The researched showed that an estimated 52 million visits are made by households to the Solent coast each year, of which just over half are made by car. The majority of visitors make trips to the coast specifically to see the sea and enjoy the coastal scenery. Dog walking was the most frequently observed activity, with walking, cycling and jogging being other common recreational activities. Most activities involved people staying on the shore/sea wall rather than being on the intertidal areas or in the water. Human activity that took place on the intertidal areas was more likely to result in bird disturbance; on those areas dog walking was particularly common and resulted in a disproportionate amount of the observed bird disturbance.

5.4.5 The Phase 3 (Liley & Tyldesley, 2013) report considered the available options for avoiding and mitigating impacts to the overwintering bird assemblage of the Solent European sites, in the context of current planning policy and regulation. It outlined a strategy of projects including 'quick wins' and longer term behavioural change initiatives for reducing the overall adverse effect such that planned new developments can be accommodated. The Solent Recreation Mitigation Partnership (SRMP) was established in 2014 to implement the recommendations of the Phase 3 report. Among its first tasks was the preparation of an interim mitigation strategy, key principles of which included:

- Managing the coast for the benefit of both wildlife and the public;
- All development which creates net additional dwellings within 5.6 kilometres (a distance which includes the entirety of Fareham borough) of the Solent SPAs is likely to have a significant effect on the SPAs and requires mitigation;
- Provision of that mitigation through the preparation of a long term strategy on a sub-regional basis;
- Mitigation funding from developer contributions secured by partner local authorities;
- A phased approach to strategy implementation; and
- Ongoing monitoring and regular reviews of the strategy.

5.4.6 The interim mitigation strategy listed the following package of mitigation measures to be implemented during the early years of SRMP operation:

- A team of rangers who will work on the ground to reduce disturbance by influencing the behaviour of visitors;
- Initiatives to encourage responsible dog walking and encourage dog owners to go to less sensitive parts of the coast;
- A monitoring scheme to track the implementation of mitigation measures and to assess their effectiveness;
- A project officer who will coordinate and help implement the mitigation measures, undertake monitoring and prepare the definitive mitigation strategy;
- A financial contribution towards a pilot project to test the effectiveness of providing alternative recreation opportunities.

5.4.7 The SRMP has made significant progress in implementing the above measures and recently consulted on its proposed definitive mitigation strategy to take the project forward. Most recent local development plans in the area now include a policy providing the mechanism to collect development contributions from proposals likely to lead to disturbance effects, such as Local Plan proposed policy NE3. Within this HRA it is assumed that all proposed developments within 5.6km of the Solent SPAs resulting in a net increase in dwellings will comply with proposed policy NE3, and hence would not lead to (strategically-operating) disturbance effects and can be screened-out of the HRA process. The potential for site-specific disturbance effects is considered below.

Other plans and projects acting in combination

5.4.8 The following plans/projects identified at the screening stage may also contribute to disturbance impacts:

- Strategic development at Boorley Green, Eastleigh borough
- Strategic development at West of Waterlooville, Havant borough
- Strategic development at Tipner and Horsea Island, Portsmouth
- Strategic development at North of Whiteley, Winchester district
- Eastleigh Borough Adopted Local Plan Review 2001-2011 (adopted 2006)
- Eastleigh Borough Draft Local Plan 2011-2036
- Fareham Borough Welborne Plan (adopted 2015)
- Gosport Borough Local Plan 2011 to 2029 (adopted 2015)
- The Portsmouth Plan (adopted 2012)
- Portsmouth City Draft Local Plan 2014-2034
- Winchester District Local Plan Part 1 - Joint Core Strategy (adopted 2013)
- Winchester District Local Plan Part 2 – Development Management and Site Allocations (adopted 2013)

- Hampshire Local Transport Plan (2011-2031)

5.5 Water Abstraction and Supply

5.5.1 Fareham borough falls within the supply zones of both Portsmouth Water and Southern Water. Most Portsmouth Water abstractions are linked to river flows, either directly at the Itchen via Gaters Mill, or indirectly through groundwater abstractions affecting the Hamble, Meon, Wallington, Ems and Lavant which have all (except for the Meon) been subject to Water Framework Directive (WFD) investigations during the AMP5 period (2010 – 2015). Southern Water draws its supply from both surface and groundwater sources. Surface water is drawn from abstractions at Testwood on the River Test, and Otterbourne on the Itchen. Groundwater is drawn from the Chalk aquifer.

5.5.2 The Environment Agency's Review of Consents (RoC) under the Habitats Directive, completed in late 2007, determined sustainable levels of water abstraction and waste water discharge that can be met without adverse effects on the ecological integrity of European sites, including the marine habitats of the Solent system and freshwater habitats of its rivers. The chalk Rivers Test and Itchen, fed by groundwater, supply substantial quantities of potable water, and abstractions from these systems alter the surface water regime, in turn impacting on important ecological receptors. There is a further freshwater requirement in maintaining ecological integrity of the intertidal zones of coastal sites.

5.5.3 In response to the RoC findings, the water companies accepted 'Sustainability Reductions' to their licenced abstractions from the River Itchen (SAC), Havant and Bedhampton Springs and a group of Sussex licences (Chichester and Langstone Harbour SPA/Ramsar and Solent Maritime SAC) to protect European sites. These reductions are being introduced progressively through the water companies' Water Resource Management Plans (WRMP), over five years commencing in 2015, in accordance with a Memorandum of Understanding between Portsmouth Water, Southern Water, the Environment Agency and Ofwat.

5.5.4 PUSH recently commissioned a new Integrated Water Management Strategy (IWMS) to update the previous version which was published in 2008. The IWMS is investigating how water resources, water quality and the environment can be protected and improved in the context of housing growth in the period to 2036. It will identify constraints and opportunities to deliver strategic growth, taking into account climate change, flood risk and associated impacts in the context of water resource and infrastructure needs, waste water treatment and infrastructure, water quality.

5.5.5 The study is expected to be published later in 2017. Given the relatively early stage of plan-making and high degree of relevance this study will have to the HRA, it was considered necessary to await the final report before assessing the likely significant effects of the Local Plan in detail.

Other plans and projects acting in combination

5.5.6 The following plans/projects identified at the screening stage may also contribute to increasing water demand:

- Strategic development at Boorley Green, Eastleigh borough
- Strategic development at West of Waterlooville, Havant borough
- Strategic development at Tipner and Horsea Island, Portsmouth
- Strategic development at North of Whiteley, Winchester district
- Eastleigh Borough Adopted Local Plan Review 2001-2011 (adopted 2006)
- Eastleigh Borough Draft Local Plan 2011-2036
- Fareham Borough Welborne Plan (adopted 2015)
- Gosport Borough Local Plan 2011 to 2029 (adopted 2015)
- The Portsmouth Plan (adopted 2012)
- Portsmouth City Draft Local Plan 2014-2034
- Winchester District Local Plan Part 1 - Joint Core Strategy (adopted 2013)
- Winchester District Local Plan Part 2 – Development Management and Site Allocations (adopted 2013)

5.6 Waste Water Treatment and Discharge

5.6.1 The ability of wastewater treatment works (WTW) to receive foul water is limited both by conveyance infrastructure capacity and technological capability to treat waste water to the quality standard required for safe discharge into aquatic and marine environments. Nutrient enrichment and in particular nitrogen (N) pollution arising from wastewater discharges has been implicated in the development of dense macroalgal mats occurring in the intertidal zone, which increases biological oxygen demand (BOD) and reduces dissolved oxygen content. This in turn reduces the diversity and abundance of intertidal invertebrates (wader prey) and the productivity of sea-grass beds (Brent goose forage). The major sources of nitrogen to the Solent European marine sites are from:

- Coastal background seawater from the English Channel;
- Direct rivers and streams discharging into the sites;
- Indirect rivers and streams discharging elsewhere in the Solent; and
- Effluent discharges permitted by the EA.

5.6.2 The Environment Agency states that nitrogen is the most important constraint affecting WTWs in South Hampshire which discharge into the marine environment. Discharge consent limits are set by the Environment Agency, address both volume and pollutant load, and have been adjusted under the Review of Consents process to avoid adverse effects on European sites including Solent and Southampton Water SPA/Ramsar and Portsmouth Harbour SPA/Ramsar.

5.6.3 As stated above, PUSH recently commissioned a new Integrated Water Management Strategy to investigate how water resources, water quality and the environment can be protected and improved in the context of housing growth in the period to 2036. It will identify constraints and opportunities to deliver strategic growth, taking into account climate change, flood risk and

associated impacts in the context of water resource and infrastructure needs, waste water treatment and infrastructure, water quality. Given the relatively early stage of plan-making and high degree of relevance this study will have to the HRA, it was considered necessary to await the final report before assessing the likely significant effects of the Local Plan in detail.

Other plans and projects acting in combination

5.6.4 The following plans/projects identified at the screening stage may also contribute to increasing waste water discharges:

- Strategic development at Boorley Green, Eastleigh borough
- Strategic development at West of Waterlooville, Havant borough
- Strategic development at Tipner and Horsea Island, Portsmouth
- Strategic development at North of Whiteley, Winchester district
- Eastleigh Borough Adopted Local Plan Review 2001-2011 (adopted 2006)
- Eastleigh Borough Draft Local Plan 2011-2036
- Fareham Borough Welborne Plan (adopted 2015)
- Gosport Borough Local Plan 2011 to 2029 (adopted 2015)
- The Portsmouth Plan (adopted 2012)
- Portsmouth City Draft Local Plan 2014-2034
- Winchester District Local Plan Part 1 - Joint Core Strategy (adopted 2013)
- Winchester District Local Plan Part 2 – Development Management and Site Allocations (adopted 2013)

5.7 Site-specific Impacts

5.7.1 Site-specific impacts are those which emanate from the development of a given site and operate at a local scale on nearby European sites, potentially resulting in the actual or functional loss of habitats which have a role in supporting the integrity of the European sites. Impacts can be further separated into impacts during the construction or operational phase, and are defined in the following sections:

Construction impacts

- Habitat loss due to the location/footprint of development;
- Construction noise;
- Construction activity; and
- Aquatic/atmospheric pollution during remediation, demolition or construction.

Operation impacts

- Disturbance due to increased activity (including the impacts of recreation which are not addressed by the SRMP);
- Displacement due to shortened view lines; and
- Collision mortality risk.

Habitat Loss

5.7.2 This pathway is defined as impacts from development which, due to its location and size (i.e. footprint), changes the extent or distribution of a qualifying habitat or the habitats of qualifying species within a European site, thereby reducing the population or restricting the distribution of qualifying species.

5.7.3 It also includes development which would result in the loss of habitats which support the ecological functions of a European site, such as those classified as being "Important" for waders or dark-bellied Brent goose. These sites are identified in the *Solent Waders and Brent Goose Strategy* (King, 2010). There are 15 Important sites for Brent geese within Fareham borough, four of which are also Important wader roosts, located along the Hamble estuary and Solent foreshore in the south-west of the borough; see Figure 5.1 and Figure 5.2.

Construction Noise

5.7.4 This pathway is defined as impacts from development whose construction processes emit a level of noise which could change the distribution of qualifying species within a European site or important supporting area, displacing the species from otherwise suitable habitats, and thereby reducing individual survival rates and risking a population reduction. This could be due to the proximity of the development site to the European site / supporting area, or the absence of existing topographic features, structures or vegetation which may serve to sufficiently attenuate the noise, or a combination of both.

5.7.5 Very loud (defined as greater than 70dB) and percussive noises have the potential to disturb birds, increasing time spent alert and in flight, and reducing the time available to feed. Peak levels of sound are most likely to occur from the impact of pneumatic drilling and concrete breaking during site preparation and piling during construction. These activities can have an impact on bird species at a distance of up to 300m. This figure has been used as a worst-case scenario and is based on published research and studies by the Environment Agency for the Humber Estuary Tidal Defences scheme, the Environmental Statement for which states that: "*Sudden noise in the region of 80dB appears to elicit a flight response in waders to 250m from the source, with levels below this to approximately 70dB causing flight or anxiety behaviour in some species.*'' (Environmental Statement for the Humber Estuary Tidal Defences: Urgent works, Paull to Kilnsea and Whitton to Pyewipe, cited in Biodiversity by Design, 2008, p.79).

Fareham Local Plan Review

Important Brent Goose/Wader Site

Uncertain Brent Goose/Wader Site

Spatial Planning Areas

Borough

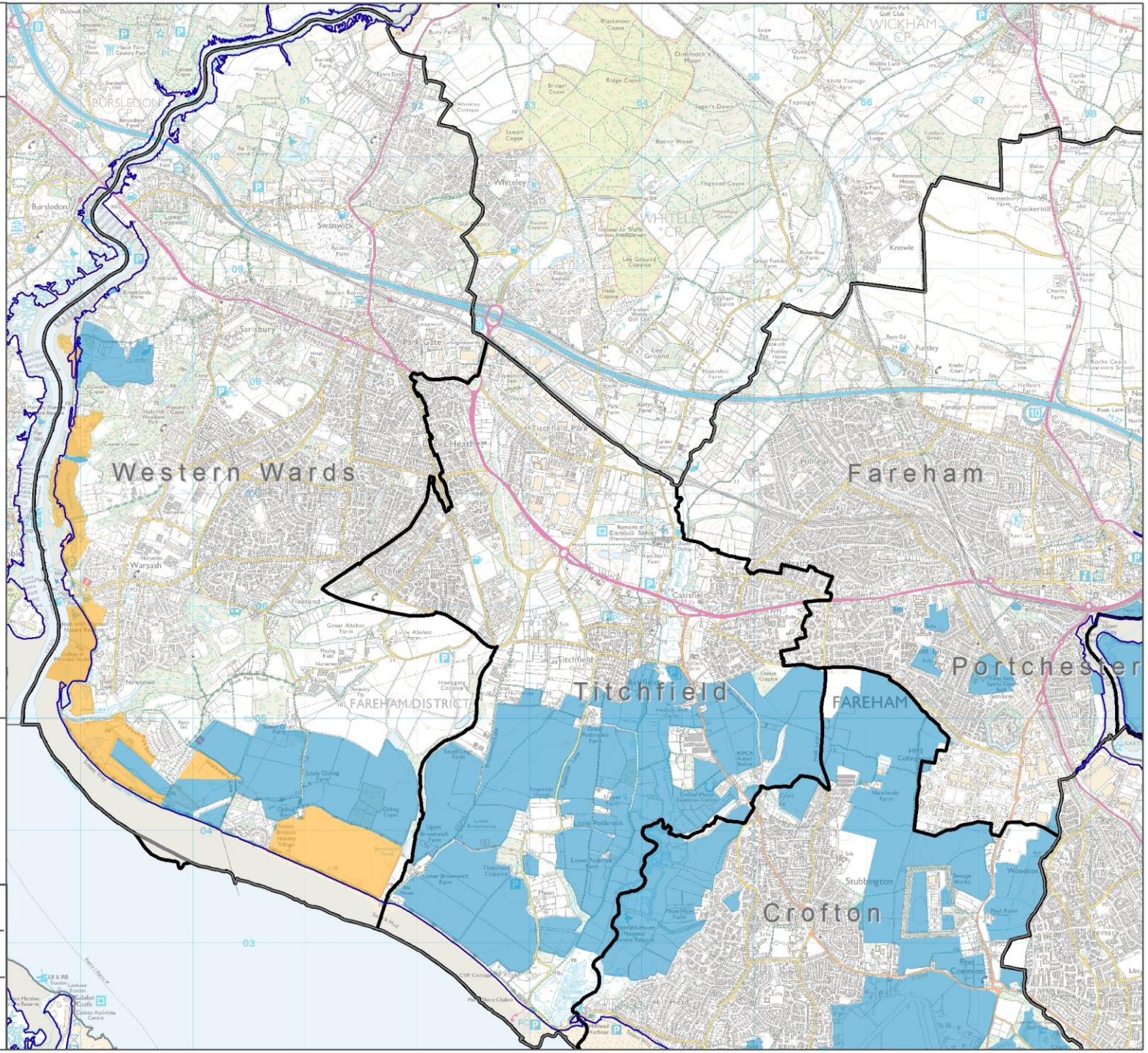


Figure 5.1: Important sites for Brent goose and waders (west)

0 0.9 1.8 Kilometers N

ENVIRONMENTAL CONSULTING
Unit 5 Westergate Business Centre
Brighton
BN2 4QN

Scale	Date
1:45,000	Jan2016
Created by	**Reviewed by**
NP	NP

Drawing number
UE-0192_BG-Wader_160107

Fareham Local Plan Review

Important Brent Goose/Wader Site

Uncertain Brent Goose/Wader Site

Spatial Planning Areas

Borough

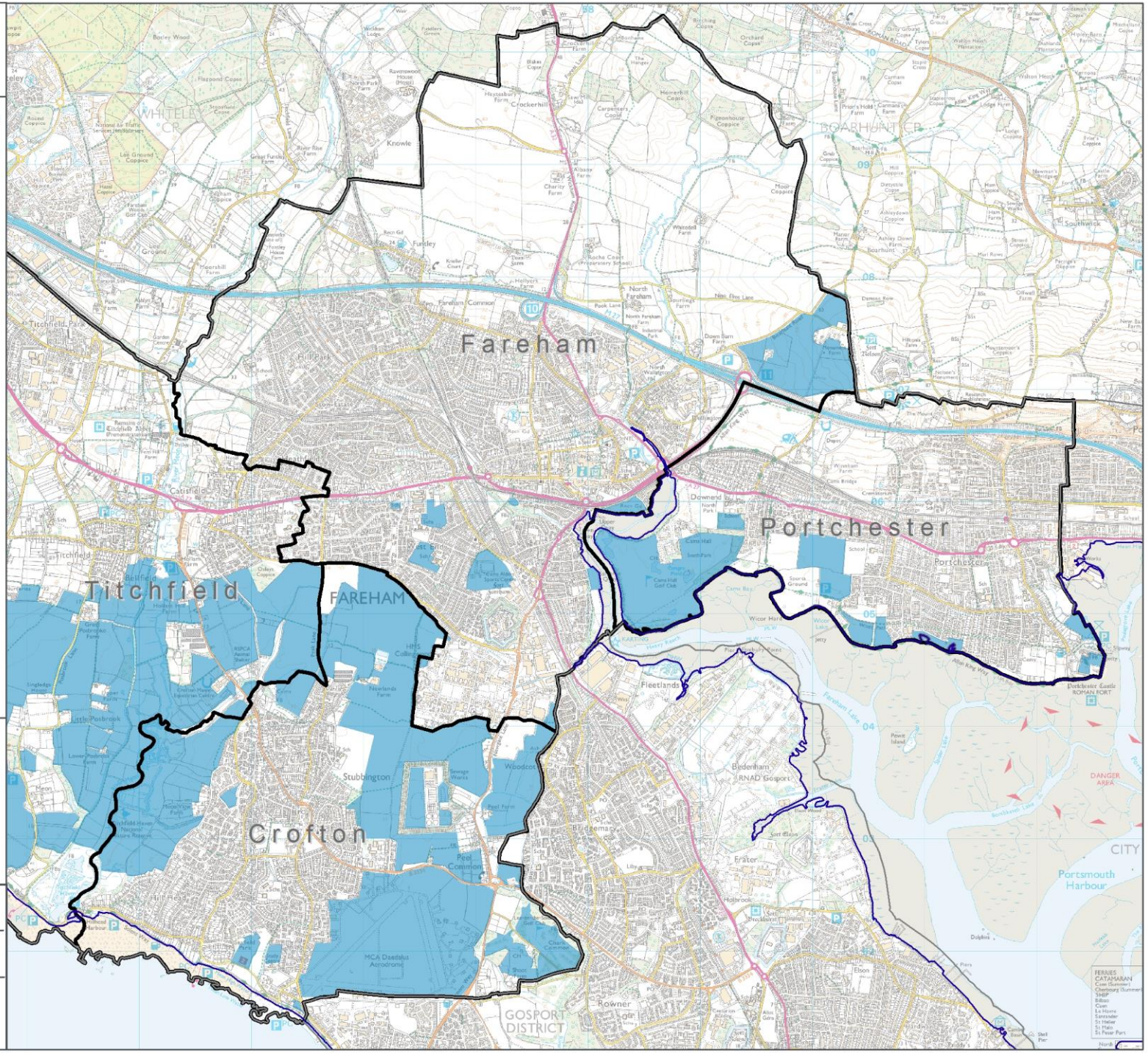


Figure 5.2: Important sites for Brent goose and waders (east)

0 0.9 1.8 Kilometers

N

ENVIRONMENTAL CONSULTING
Unit 5 Westergate Business Centre
Brighton
BN2 4QN

Scale	Date
1:45,000	Jan2016
Created by	**Reviewed by**
NP	NP

Drawing number
UE-0192_BG-Wader_160107

Construction Activity

5.7.6 This pathway is defined as impacts from development whose construction processes involve a heightened level of activity which could change the distribution of qualifying species within a European site or important supporting area, displacing the species from otherwise suitable habitats, and thereby reducing individual survival rates and risking a population reduction. This could be due to the proximity of the allocation site to the European site / supporting area, or the absence of existing topographic features, structures or vegetation which may serve to sufficiently screen the activity, or a combination of both.

5.7.7 Stillman *et al* (2012; Table 6.1, p.61) identify median distances for Brent goose and some waders within which the birds commonly respond to human activity, thereby causing changes in behaviour or displacement from otherwise suitable habitats. This response distance, which is around 80-100m for most species analysed in the Solent area, provides some context for sites which are particularly close to a European site or Important wader or Brent goose site.

Aquatic/Atmospheric Pollution during Construction

5.7.8 This pathway is defined as impacts from development of a site which is thought to contain contaminants whose mobilisation during remediation, demolition or construction could result in pollution of a qualifying habitat or habitat of a qualifying species, thereby limiting the function of the habitat or altering the supporting processes on which it relies.

5.7.9 This could occur by causing the pollutants to be released into the atmosphere in close proximity to the habitat, or introducing pollutants to an aquatic environment that is hydrologically connected with the habitat. Pollution impacts could also occur as a result of a pollution incident during construction on a site which is hydrologically connected with a qualifying habitat or habitat of a qualifying species (regardless of whether the allocation site is thought to be contaminated).

Disturbance due to Increased Operational Activity

5.7.10 This pathway is defined as impacts from development (of any type) which results in heightened activity or increased operational noise within the development site, thereby causing changes in the distribution of qualifying species within a European site or important supporting area, displacing the species from otherwise suitable habitats, and thereby reducing individual survival rates and risking a population reduction. This could be due to the proximity of the allocation site to the European site / supporting area and/or the absence of existing topographic features, structures or vegetation which may serve to sufficiently screen the activity or attenuate the noise. The response distance of around 80-100m referred to above provides some context for sites which are particularly close to a European site or Important wader or Brent goose site.

Displacement during Operation due to Shortened View-lines

5.7.11 This pathway is defined as impacts from development (of any type) which changes the distribution of a qualifying species within a European site or important supporting area by reducing view lines available to birds using the habitats within the site.

5.7.12 Several bird species can be displaced as a result of their specific line-of-sight requirements while foraging or roosting, whereby obstruction to view lines (necessary for early warning of perceived predation risk) will render areas of habitat unsuitable for use by birds. For example, terns and gulls prefer open nest sites and unrestricted views while roosting and feeding. Waders, including ringed plover, black-tailed and bar-tailed godwits, redshank, curlew, turnstone, dunlin and sanderling, require views of greater than 200m when roosting or feeding. Brent goose requires views of at least 500m (English Nature, 2001; Natural England, 2015[9]) in order to feel sufficiently free of predation risk to feed. Additionally, King (2010) highlights a number of factors which significantly correlate with the suitability of sites for waders and Brent geese, and buildings within 500m have a negative effect on the suitability of sites for both waders and Brent geese.

Other plans and projects acting in combination

5.7.13 The following plans/projects identified at the screening stage may also contribute to site-specific impacts:

- Strategic development at Tipner and Horsea Island, Portsmouth
- Eastleigh Borough Adopted Local Plan Review 2001-2011 (adopted 2006)
- Eastleigh Borough Draft Local Plan 2011-2036
- Gosport Borough Local Plan 2011 to 2029 (adopted 2015)
- The Portsmouth Plan (adopted 2012)
- Portsmouth City Draft Local Plan 2014-2034

5.8 Distance-based Screening Criteria

5.8.1 Drawing on the previous sections it is possible to devise a series of distance-based screening criteria which are sufficiently precautionary, proportionate and evidence based to determine the likelihood of significant effects from site-specific impacts. These are set out in Table 5.1 and have been applied to the sites proposed for development in the Draft Plan. The results are illustrated in the screening matrix shown at Appendix I and discussed the next chapter.

[9] Natural England (2015): *Portsmouth Harbour SPA: Supplementary advice on conserving and restoring site features.* Accessed online [26/9/16] at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/485360/portsmouth-harbour-spa-supplementary-advice.pdf

Table 5.1: Distance-based screening criteria

Impact	Distance	EU or Important BG/wader site
Habitat loss	0m (within or overlapping site)	Both
Construction pollution	50m or hydrological pathway	EU site
Construction activity	100m	Both
Construction noise	300m	Both
Operational activity	Any type: 100m Residential: 500m	Both
Shortened view-lines	Waders: 200m Brent goose: 500m	Both

6 Assessment of Likely Significant Effects

6.1 Introduction

6.1.1 The following assessment uses the qualifying features, conservation objectives and ecological data for each European site defined in Chapters 3 and 4, and considers these against the range of impact pathways described in Chapter 5.

6.1.2 The results of the screening assessment (see Appendix I) conclude that the majority of proposed policies are unlikely to significantly affect a European site, however, those which propose certain sites for development may do and these form the focus of the assessment. Allocations which are retained from the DSP Plan (adopted June 2015) have already undergone HRA during preparation of that plan are not considered again in the current HRA.

6.2 Habitat Loss

6.2.1 None of the proposed site allocations overlap partially or wholly with an SAC/SPA/Ramsar or an Important Brent goose / wader site. No significant effects are likely.

6.3 Aquatic/Atmospheric Pollution during Construction

6.3.1 Three of the proposed site allocations are within 50m of, or have known hydrological pathways to, an SAC/SPA/Ramsar, and could result in likely significant effects as a result of aquatic/atmospheric pollution during construction:

- Lysses Car Park, Fareham (ID:2826) likely to significantly affect Solent & Dorset Coast pSPA and Portsmouth Harbour SPA/Ramsar
- Warsash Maritime Academy (ID:3088) likely to significantly affect Solent Maritime SAC, Solent & Southampton Water SPA/Ramsar, Solent and Dorset Coast pSPA
- North & South of Greenaway Lane, Warsash (south) (ID:3126b) likely to significantly affect Solent Maritime SAC, Solent & Southampton Water SPA/Ramsar, Solent and Dorset Coast pSPA

6.4 Construction Noise, Construction Activity, Operational Activity, Shortened View-lines

6.4.1 These four impact pathways all operate via similar mechanisms whereby qualifying species are displaced from otherwise suitable habitats, thereby reducing individual survival rates and risking a population reduction, albeit that the cause, timing, longevity and scale of the impact will vary from site to site. Table 6.1 examines each site with reference to the development proposals, its distance from the relevant SPA/Ramsar or an Important Brent goose / wader site, and adjacent

topographic features, before concluding whether significant effects on qualifying species are likely.

6.4.2 In summary, the majority of proposed site allocations are not considered likely to result in significant effects via these impact pathways because they are either too distant from an SPA/Ramsar or an Important Brent goose / wader site, or intervening topographic features would be likely to screen activities at the site, thereby preventing displacement impacts from occurring. However, significant effects could not be ruled out for the following sites.

6.4.3 Four of the proposed site allocations are within 300m of an SPA/Ramsar or an Important Brent goose / wader site and could result in likely significant effects as a result of construction noise:

- Lysses Car Park, Fareham (ID:2826) likely to significantly affect Solent & Dorset Coast pSPA and Portsmouth Harbour SPA/Ramsar
- Warsash Maritime Academy (ID:3088) likely to significantly affect Solent & Southampton Water SPA/Ramsar, Solent and Dorset Coast pSPA, could potentially displace Brent geese and waders using sites F61, F60, F69, F64, F62 and F68
- Romsey Avenue, Portchester (ID: 207) likely to significantly affect Solent & Dorset Coast pSPA and Portsmouth Harbour SPA/Ramsar
- Moraunt Drive, Portchester (ID:3032) likely to significantly affect Solent & Dorset Coast pSPA and Portsmouth Harbour SPA/Ramsar

6.4.4 Two of the proposed site allocations are within 100m of an SPA/Ramsar or an Important Brent goose / wader site and could result in likely significant effects as a result of construction activity:

- Lysses Car Park, Fareham (ID:2826) likely to significantly affect Solent & Dorset Coast pSPA
- Warsash Maritime Academy (ID:3088) likely to significantly affect Solent & Southampton Water SPA/Ramsar, Solent and Dorset Coast pSPA, could potentially displace Brent geese and waders using sites F61 and F60

6.4.5 Four of the proposed site allocations are within 100m or 500m of an SPA/Ramsar or an Important Brent goose / wader site and could result in likely significant effects as a result of operational activity:

- Lysses Car Park, Fareham (ID:2826) likely to significantly affect Solent & Dorset Coast pSPA and Portsmouth Harbour SPA/Ramsar
- Warsash Maritime Academy (ID:3088) likely to significantly affect Solent & Southampton Water SPA/Ramsar, Solent and Dorset Coast pSPA, could potentially displace Brent geese and waders using sites F61, F60, F69, F64, F62 and F68
- Cranleigh Road, Portchester (ID: 3014) likely to significantly affect Solent & Dorset Coast pSPA and Portsmouth Harbour SPA/Ramsar
- Romsey Avenue, Portchester (ID: 207) likely to significantly affect Solent & Dorset Coast pSPA and Portsmouth Harbour SPA/Ramsar

6.4.6 Four of the proposed site allocations are within 200m or 500m of an SPA/Ramsar or an Important Brent goose / wader site and could result in likely significant effects as a result of shortened view-lines:

- Lysses Car Park, Fareham (ID:2826) likely to significantly affect Solent & Dorset Coast pSPA and Portsmouth Harbour SPA/Ramsar
- Warsash Maritime Academy (ID:3088) likely to significantly affect Solent & Southampton Water SPA/Ramsar, Solent and Dorset Coast pSPA, could potentially displace Brent geese and waders using sites F61, F60, F69, F64, F62 and F68
- Cranleigh Road, Portchester (ID: 3014) likely to significantly affect Solent & Dorset Coast pSPA and Portsmouth Harbour SPA/Ramsar
- Romsey Avenue, Portchester (ID: 207) likely to significantly affect Solent & Dorset Coast pSPA and Portsmouth Harbour SPA/Ramsar
- Moraunt Drive, Portchester (ID:3032) likely to significantly affect Solent & Dorset Coast pSPA and Portsmouth Harbour SPA/Ramsar

6.5 Screening Conclusions

6.5.1 It cannot be concluded that there are no likely significant effects as a result of the Local Plan. The plan will be taken forward to the Appropriate Assessment stage to examine the nature of these effects in further detail.

Table 6.1: Proposed allocations and site-specific impacts

Assessment of Impacts via Construction Pollution, Construction Noise, Construction Activity, Operational Activity, Shortened View-lines
Site: Lysses Car Park, Fareham (ID:2826) Development proposals: 0.5 ha brownfield site within USB proposed for residential use comprising 24 dwellings Distance from SPA/Ramsar/Important BG site: Three internationally important features within 500m including Portsmouth Harbour SPA/Ramsar 126.6m to the south-east and Solent & Dorset Coast pSPA 3.2m to the north-east. Adjacent topography: Built development to the west, residential buildings with gardens to the south and green space to the north and east. Construction pollution: Yes, hydrological connection. Construction noise: Yes, Dorset Coast pSPA and Portsmouth Harbour SPA/Ramsar are within the impact distance of 300m. Construction activity: Yes, Dorset Coast pSPA is within the impact distance of 100m Operational activity: Yes, Dorset Coast pSPA is within the impact distance of 100m and Portsmouth Harbour SPA/Ramsar are within the impact distance of 500m. Shortened view-lines: Yes, Dorset Coast pSPA and Portsmouth Harbour SPA/Ramsar are within the impact distance of 200m and 500m Conclusion: Screen in
Site: Wykeham House School, Fareham (ID:2942) Development proposals: 0.5 ha brownfield site within USB proposed for residential use, comprising 15 dwellings Distance from SPA/Ramsar/Important BG site: 160.8m NE to pSPA at Solent and Dorset Coast, 239.0m SE to Ramsar and SPA sites at Portsmouth Harbour Adjacent topography: Road and residential properties to the south, residential properties with associated gardens and parks to the east and west, car park to the north Construction pollution: No; site is beyond impact distance (50m) Construction noise: No; site is within 300m of a pSPA at Solent and Dorset Coast and to Ramsar and SPA sites at Portsmouth Harbour, however existing buildings would dissipate construction noise Construction activity: No; site is beyond impact distance (100m) Operational activity: No; site is beyond impact distance (100m); site is within 500m of pSPA at Solent and Dorset Coast and to Ramsar and SPA sites at Portsmouth Harbour, but existing built landscape would screen operational activity Shortened view-lines: No; site is within 500m of pSPA at Solent and Dorset Coast and to Ramsar and SPA sites at Portsmouth Harbour, but openness of landscape is already affected by existing development Conclusion: Screen out

Assessment of Impacts via Construction Pollution, Construction Noise, Construction Activity, Operational Activity, Shortened View-lines
Site: Warsash Maritime Academy (ID:3088) Development proposals: 3.8 ha brownfield site outside USB proposed for residential use, comprising 100 dwellings Distance from SPA/Ramsar/Important BG site: 1.2m south to Ramsar and SPA site at Solent & Southampton Water; 1.2m south to SAC at Solent Maritime; 153.1m north to a pSPA at Solent and Dorset Coast; 3.8m west to an important BG and waders site at site code F61; 8.6m south-west to an important BG and waders site at site code F60; 144.3m north to an important BG site code F69; 231m south to an important BG and waders sites at site code F64; 266.7m south to an important BG and waders site at site code F62; 280.6m south to an important BG site at site code F68 Adjacent topography: Built development to the north with incorporated green spaces, roads and residential development to the east, pasture to the south and estuary mouth to the west. Construction pollution: Yes, hydrological connection. Construction noise: Yes; site is within 300m of Ramsar, SPA, SAC, important BG and wader sites and pSPA. Demolition and construction works could potentially displace Brent geese and waders using sites F61, F60, F69, F64, F62 and F68. Works could also displace qualifying species in the SPA/Ramsar at Solent & Southampton water Construction activity: Yes, site is within 100m of Ramsar, SPA, SAC, important BG and wader sites and pSPA. Activities are likely to displace Brent geese, waders and qualifying species within these sites. Operational activity: Yes, site is within 100m of Ramsar, SPA, SAC, important BG and wader sites and pSPA. Activities are likely to displace Brent geese, waders and qualifying species within these sites. Shortened view-lines: Yes; site is within 200m and 500m of Ramsar, SPA, SAC, important BG and wader sites and pSPA. Activities are likely to displace Brent geese, waders and qualifying species within these sites Conclusion: Screen in
Site: North & South of Greenaway Lane, Warsash (south) (ID:3126b) Development proposals: 17.2 ha residential greenfield site. Proposed for residential development comprising 700 dwellings when combined with Warsash Cluster Boundary North Distance from SPA/Ramsar/Important BG site: 381.8m west to Ramsar and SPA sites at Solent & Southampton Water, 381.8m west to an SAC site at Solent Maritime, Important BG sites are found 366.1m north west, 373.2m south west, and 497.9m north west at site codes F70, F69, and F71A respectively. Adjacent topography: Arable and nursery sites to the west, extensive residential properties to the south and east, Warsash Cluster Boundary North to the north. Construction pollution: Yes, hydrological connection Construction noise: No; site is beyond impact distance (300m)

Assessment of Impacts via Construction Pollution, Construction Noise, Construction Activity, Operational Activity, Shortened View-lines
Construction activity: No; site is beyond impact distance (100m) Operational activity: No; site is beyond impact distance (100m); site is within 500m of Ramsar, SPA, SAC and important BG and wader sites, but existing built landscape would screen operational activity Shortened view-lines: No; site is within 500m of Ramsar, SPA, SAC and important BG and wader sites but openness of landscape is already affected by existing development Conclusion: Screen in
Site: Cranleigh Road, Portchester (ID: 3014) Development proposals: 5.6 ha greenfield site outside USB proposed for residential use of 120 dwellings Distance from SPA/Ramsar/Important BG site: Three internationally important features within 500m including Portsmouth Harbour SPA/Ramsar and Solent & Dorset Coast pSPA 353.7m to the south-west Adjacent topography: Extensive sprawling residential properties to the north, south and east, green space to the west and some towards the south-west. Construction pollution: No; site is beyond impact distance (50m) Construction noise: No; site is beyond impact distance (300m) Construction activity: No; site is beyond impact distance (100m) Operational activity: Yes; site is beyond impact distance (100m), but within 500m and intervening landscape is flat and open Shortened view-lines: Yes; site is within the impact distance of 500m of Portsmouth Harbour SPA/Ramsar and Solent & Dorset Coast Conclusion: Screen in
Site: Romsey Avenue, Portchester (ID: 207) Development proposals: 12.6 ha greenfield site outside USB proposed for residential use of 303 dwellings. Distance from SPA/Ramsar/Important BG site: Three internationally important features within 500m including Portsmouth Harbour SPA/Ramsar and Solent & Dorset Coast pSPA 184.5m to the west Adjacent topography: Residential properties with gardens to the north. Areas of green space to the south, west and east. Construction pollution: No; site is beyond impact distance (50m) Construction noise: Yes; site is within the impact distance of 300m of Portsmouth Harbour SPA/Ramsar and Solent & Dorset Coast pSPA Construction activity: No; site is beyond impact distance (100m) Operational activity: Yes; site is beyond impact distance (100m), but within 500m and intervening landscape is flat and open

Assessment of Impacts via Construction Pollution, Construction Noise, Construction Activity, Operational Activity, Shortened View-lines
Shortened view-lines: Yes; site is within the impact distance of 500m of Portsmouth Harbour SPA/Ramsar and Solent & Dorset Coast pSPA Conclusion: Screen in
Site: Pinks Hill, Wallington (ID: 1998) Development proposals: 5.3 ha greenfield site outside USB proposed for residential use, comprising 80 dwellings Distance from SPA/Ramsar/Important BG site: Three internationally important features within 500m including Portsmouth Harbour SPA/Ramsar at 289.9m to the south and Solent & Dorset Coast pSPA 238.0m to the south west Adjacent topography: Road way to the south, green space and industrial buildings with hard standing to the north, trees and residential dwellings with gardens to the west. Construction pollution: No; site is beyond impact distance (50m) Construction noise: No; site is within the impact distance of 300m of Portsmouth Harbour SPA/Ramsar and Solent & Dorset Coast pSPA, however built landscape would dissipate construction noise Construction activity: No; site is beyond impact distance (100m) Operational activity: No; site is beyond impact distance (100m); site is within 500m, but existing built landscape would screen operational activity Shortened view-lines: No; site is within the impact distance of 500m of Portsmouth Harbour SPA/Ramsar and Solent & Dorset Coast pSPA, but openness of landscape is already affected by existing development Conclusion: Screen out
Site: Military Road, Fareham (ID:27) Development proposals: 2.2 ha greenfield site outside USB proposed for residential use, comprising 75 dwellings. Distance from SPA/Ramsar/Important BG site: Three internationally important features, including Portsmouth Harbour SPA/Ramsar 475.9m south, Solent & Dorset Coast pSPA 247.8m south-west. No important BG sites within 500m. Adjacent topography: Residential properties with gardens to the west and south-west, including some established tree corridors. Areas of green space and a denser tree canopy to the south and east, Commercial property with large areas of hard standing to the north and north-east. Construction pollution: No; site is beyond impact distance (50m) Construction noise: No; site is within the impact distance of 300m of Solent & Dorset Coast pSPA, however built landscape would dissipate construction noise Construction activity: No; site is beyond impact distance (100m) Operational activity: No; site is beyond impact distance (100m); site is within 500m, but existing built landscape would screen operational activity Shortened view-lines: No; site is within impact distance of 500m from Portsmouth Harbour SPA/Ramsar and Solent & Dorset Coast pSPA, but openness of

Assessment of Impacts via Construction Pollution, Construction Noise, Construction Activity, Operational Activity, Shortened View-lines
landscape is already affected by existing development Conclusion: Screen out
Site: Moraunt Drive, Portchester (ID:3032) Development proposals: c.1.1ha greenfield site proposed for 40 dwellings. Distance from SPA/Ramsar/Important BG site: Three internationally important features within 500m including Portsmouth Harbour SPA/Ramsar and Solent & Dorset Coast pSPA 237.6m to the south Adjacent topography: Residential properties with gardens to the north and east. Areas of green space dominated by scrub and woodland south and west. Construction pollution: No; site is beyond impact distance (50m) Construction noise: Yes; site is within 300m of Portsmouth Harbour SPA/Ramsar and Solent and Dorset Coast PSPA Construction activity: No; site is beyond impact distance (100m) Operational activity: No; site is beyond impact distance (100m); site is within 500m and landscape is flat but dominant vegetation in intervening landscape would screen operation activity Shortened view-lines: Yes – if tall buildings are proposed; site is within impact distance of 500m from Portsmouth Harbour SPA/Ramsar and Solent & Dorset Coast pSPA Conclusion: Screen in
Site: Daedalus West (Swordfish) (ID:3114) Development proposals: intensification and expansion of the existing strategic employment allocation to provide 12,000m2 employment (B1/B2/B8) floorspace. Distance from SPA/Ramsar/Important BG site: Three internationally important features, including Solent and Southampton Water SPA/Ramsar 451.0m south-west, Solent & Dorset Coast pSPA 484.3m south-west. Adjacent topography: Residential properties with gardens to the west and north, airfield, employment areas and residential to east and south Construction pollution: No; site is beyond impact distance (50m) Construction noise: No; site is beyond 300m of Solent and Southampton Water SPA/Ramsar and Solent and Dorset Coast PSPA Construction activity: No; site is beyond impact distance (100m) Operational activity: No; site is beyond impact distance (100m); site is within 500m but existing built landscape would screen operation activity Shortened view-lines: No; site is within impact distance of 500m from Solent and Southampton Water SPA/Ramsar and Solent & Dorset Coast pSPA, but openness of landscape is already affected by existing development Conclusion: Screen out

7 Summary and Consultation Arrangements

7.1 Summary

7.1.1 This document sets out a screening assessment under the Habitats Regulations for the Fareham Borough Local Plan 2036. The report accompanies the consultation on the Draft Plan and forms part of the evidence base upon which it is based. A related Sustainability Appraisal has also been prepared and is reported separately.

7.2 Scope of the Assessment

7.2.1 Acknowledging that the Local Plan is not directly connected with or necessary to management of the sites for nature conservation, the HRA considers the following European sites for likely significant or adverse effects on integrity:

- Butser Hill SAC
- Solent & Isle of Wight Lagoons SAC
- The New Forest SAC
- Portsmouth Harbour SPA
- Solent & Southampton Water SPA
- Chichester & Langstone Harbours Ramsar
- Solent & Southampton Water Ramsar
- River Itchen SAC
- Solent Maritime SAC
- Chichester & Langstone Harbours SPA
- Solent & Dorset Coast pSPA
- The New Forest SPA
- Portsmouth Harbour Ramsar
- The New Forest Ramsar

7.3 Conclusions

7.3.1 It was not possible to conclude whether the Local Plan is likely to lead to significant atmospheric pollution effects, resulting from the in combination effects of multiple developments at the strategic scale. A sub-regional air quality study is currently being prepared and it was considered necessary to await the final report before assessing the likely significant effects of the plan.

7.3.2 Within this HRA it is assumed that all proposed developments within 5.6km of the Solent SPAs resulting in a net increase in dwellings will comply with proposed policy NE3, and hence would not lead to (strategically-operating) disturbance effects and can be screened-out of the HRA process. The potential for site-specific disturbance effects is considered separately.

7.3.3 It was not possible to conclude whether the Local Plan is likely to lead to significant effects through water abstraction, resulting from the in combination effects of multiple developments at the strategic scale. A sub-regional Integrated Water Management Study is currently being

prepared and it was considered necessary to await the final report before assessing the likely significant effects of the plan.

7.3.4 It was not possible to conclude whether the Local Plan is likely to lead to significant effects through water pollution, resulting from the in combination effects of multiple developments at the strategic scale. A sub-regional Integrated Water Management Study is currently being prepared and it was considered necessary to await the final report before assessing the likely significant effects of the plan.

7.3.5 None of the proposed site allocations overlap partially or wholly with an SAC/SPA/Ramsar or an Important Brent goose / wader site, and significant effects through habitat loss are not likely.

7.3.6 Three of the proposed site allocations are within 50m of, or have known hydrological pathways to, an SAC/SPA/Ramsar, and could result in likely significant effects through aquatic or atmospheric pollution during construction.

7.3.7 Six of the proposed site allocations are close to an SAC/SPA/Ramsar, and could result in likely significant effects through construction noise, construction activity, operational activity, shortened view-lines.

7.3.8 The Local Plan will be taken forward to the Appropriate Assessment stage to examine the nature of these effects in further detail.

7.4 Consultation Arrangements

7.4.1 The HRA Report is being made available for consultation as part of the Draft Plan consultation in autumn 2017 and can be viewed at:

http://www.fareham.gov.uk/planning/farehamlocalplanreview.aspx

Planning Strategy and Regeneration
Fareham Borough Council
Civic Offices, Civic Way, Fareham, Hampshire PO16 7AZ

7.4.2 Responses to this consultation exercise should be sent to:

Planning Strategy and Regeneration
Fareham Borough Council
Civic Offices, Civic Way, Fareham, Hampshire PO16 7AZ
planningpolicy@fareham.gov.uk

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Appendix I: Screening Assessment

Please see insert.

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Fareham Local Plan Review
Draft Plan Site Allocations and Policies

	ID	Site Name	Likely Significant Effects	Butser Hill	Emer Bog	River Itchen	Solent & Isle of Wight Lagoons	Solent Maritime	The New Forest	Chichester & Langstone Harbours	Portsmouth Harbour	Solent & Dorset Coast	Solent & Southampton Water	The New Forest	Chichester & Langstone Harbours	Portsmouth Harbour	Solent & Southampton Water	The New Forest
				SAC						SPA					Ramsar			
	87	280-282 (UTP) West Street, Fareham	Atmospheric pollution; Water resources; Water pollution (strategic)	J	E	J	J	J	E	J	J	J	J	E	J	J	J	E
	1325	Crofton Conservatories, West Street, Fareham	Atmospheric pollution; Water resources; Water pollution (strategic)	J	E	J	J	J	E	J	J	J	J	E	J	J	J	E
	2826	Lysses Car Park, Fareham	Atmospheric pollution; Water resources; Water pollution (strategic/site-level); Construction noise; Construction activity; Operation activity; View lines	J	E	J	J	J	E	J	J	J	J	E	J	J	J	E
	2942	Wykham House School, Fareham	Atmospheric pollution; Water resources; Water pollution (strategic)	J	E	J	J	J	E	J	J	J	J	E	J	J	J	E
	2956	Delme Court, Fareham	Atmospheric pollution; Water resources; Water pollution (strategic)	J	E	J	J	J	E	J	J	J	J	E	J	J	J	E
	3070	Magistrates Court, Trinity Street, Fareham	Atmospheric pollution; Water resources; Water pollution (strategic)	J	E	J	J	J	E	J	J	J	J	E	J	J	J	E
	1056	Hampshire Rose, Fareham	Atmospheric pollution; Water resources; Water pollution (strategic)	J	E	J	J	J	E	J	J	J	J	E	J	J	J	E
	3088	Warsash Maritime Academy	Atmospheric pollution; Water resources; Water pollution (strategic/site-level); Construction noise; Construction activity; Operation activity; View lines	J	E	J	J	J	E	J	J	J	J	E	J	J	J	E
	3126a	North & South of Greenaway Lane, Warsash (north)	Atmospheric pollution; Water resources; Water pollution (strategic)	J	E	J	J	J	E	J	J	J	J	E	J	J	J	E
	3126b	North & South of Greenaway Lane, Warsash (south)	Atmospheric pollution; Water resources; Water pollution (strategic/site-level)	J	E	J	J	J	E	J	J	J	J	E	J	J	J	E
	3128	Southampton Road, Segensworth	Atmospheric pollution; Water resources; Water pollution (strategic/site-level)	J	E	J	J	J	E	J	J	J	J	E	J	J	J	E
	3133	Newgate Lane South, Fareham	Atmospheric pollution; Water resources; Water pollution (strategic)	J	E	J	J	J	E	J	J	J	J	E	J	J	J	E
	3030	Downend Road East, Portchester	Atmospheric pollution; Water resources; Water pollution (strategic)	J	E	J	J	J	E	J	J	J	J	E	J	J	J	E
	3014	Cranleigh Road, Portchester	Atmospheric pollution; Water resources; Water pollution (strategic); Operation activity; View lines	J	E	J	J	J	E	J	J	J	J	E	J	J	J	E
	207	Romsey Avenue, Portchester	Atmospheric pollution; Water resources; Water pollution (strategic); Construction noise; Operation activity; View lines	J	E	J	J	J	E	J	J	J	J	E	J	J	J	E
	3105	Funtley Road North, Fareham	Atmospheric pollution; Water resources; Water pollution (strategic)	J	E	J	J	J	E	J	J	J	J	E	J	J	J	E
	3121	Funtley Road South, Fareham	Atmospheric pollution; Water resources; Water pollution (strategic)	J	E	J	J	J	E	J	J	J	J	E	J	J	J	E

Fareham Local Plan Review Draft Plan Site Allocations and Policies				Butser Hill	Emer Bog	River Itchen	Solent & Isle of Wight Lagoons	Solent Maritime	The New Forest	Chichester & Langstone Harbours	Portsmouth Harbour	Solent & Dorset Coast	Solent & Southampton Water	The New Forest	Chichester & Langstone Harbours	Portsmouth Harbour	Solent & Southampton Water	The New Forest
				SAC						SPA					Ramsar			
	3023	69 Botley Road, Park Gate	Atmospheric pollution; Water resources; Water pollution (strategic)	J	E	J	J	J	E	J	J	J	J	E	J	J	J	E
	3049	Beacon Bottom East, Park Gate	Atmospheric pollution; Water resources; Water pollution (strategic)	J	E	J	J	J	E	J	J	J	J	E	J	J	J	E
	1360	Beacon Bottom West, Park Gate	Atmospheric pollution; Water resources; Water pollution (strategic)	J	E	J	J	J	E	J	J	J	J	E	J	J	J	E
	3051	Hunts Pond Road, Titchfield	Atmospheric pollution; Water resources; Water pollution (strategic)	J	E	J	J	J	E	J	J	J	J	E	J	J	J	E
	1998	Pinks Hill, Wallington	Atmospheric pollution; Water resources; Water pollution (strategic)	J	E	J	J	J	E	J	J	J	J	E	J	J	J	E
	27	Military Road, Fareham	Atmospheric pollution; Water resources; Water pollution (strategic)	J	E	J	J	J	E	J	J	J	J	E	J	J	J	E
	324	North Wallington and Standard Way, Fareham	Atmospheric pollution; Water resources; Water pollution (strategic/site-level)	J	E	J	J	J	E	J	J	J	J	E	J	J	J	E
	3032	Moraunt Drive, Portchester	Atmospheric pollution; Water resources; Water pollution (strategic); Construction noise; View lines	J	E	J	J	J	E	J	J	J	J	E	J	J	J	E
	20	Standard Way, Wallington	Atmospheric pollution	J	E	J	J	J	E	E	E	E	E	E	E	E	E	E
	3113	Daedalus East (Faraday) - Extended	Atmospheric pollution	J	E	J	J	J	E	E	E	E	E	E	E	E	E	E
	3114	Daedalus West (Swordfish) - Extended	Atmospheric pollution	J	E	J	J	J	E	E	E	E	E	E	E	E	E	E
	ID	Strategic Policies	Likely Significant Effects															
	SP1	Presumption in Favour of Sustainable Development		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	SP2	Strategic Site at Welborne (New Community)		C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	SP3	Strategic Development Site at Daedalus (Employment)	Atmospheric pollution	J	E	J	J	J	E	E	E	E	E	E	E	E	E	E
	SP4	Strategic Opportunities at Fareham Town Centre	Atmospheric pollution; Water resources; Water pollution (strategic)	J	E	J	J	J	E	J	J	J	J	E	J	J	J	E
	SP5	Development in the Countryside		E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
	SP6	Development in Strategic Gaps		E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
	SP7	New Residential Development in the Countryside		E	E	E	E	E	E	E	E	E	E	E	E	E	E	E

Fareham Local Plan Review Draft Plan Site Allocations and Policies				Butser Hill	Emer Bog	River Itchen	Solent & Isle of Wight Lagoons	Solent Maritime	The New Forest	Chichester & Langstone Harbours	Portsmouth Harbour	Solent & Dorset Coast	Solent & Southampton Water	The New Forest	Chichester & Langstone Harbours	Portsmouth Harbour	Solent & Southampton Water	The New Forest
				SAC						SPA					Ramsar			
	SP8	Change of Use to Garden Land		E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
	ID	Housing	Likely Significant Effects															
	H1	Strategic Housing Provision		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	H2	Provision of Affordable Housing		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	H3	Affordable Housing Exceptions Sites		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	H4	Adaptable and Accessible Dwellings		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	H5	Older Persons' and Specialist Housing Provision		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	H6	Loss of Older Persons' and Specialist Housing Provision		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	H7	Self and Custom Build Homes		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	H8	Houses in Multiple Occupation		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	H9	Self-Contained Annexes and Extensions		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	H10	Gypsies, Travellers and Travelling Showpeople		E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
	H11	Development Proposals within Solent Breezes Holiday Park		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	ID	Employment	Likely Significant Effects															
	E1	Strategic Employment Land Provision		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	E2	Employment Allocations	Atmospheric pollution	J	E	J	J	J	E	E	E	E	E	E	E	E	E	E
	E3	Employment Areas		E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
	E4	Economic Development Outside of the Urban Area		E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
	E5	Boatyards		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B

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				SAC						SPA					Ramsar			
	ID	Retail	Likely Significant Effects															
	R1	Hierarchy of Centres: Protecting the Vitality and Viability of Centres		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	R2	Changes of Use		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	R3	Other Changes in the Centres or Small Parades		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	R4	Out-of-Town Shopping		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	R5	Local Shops		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	ID	Design	Likely Significant Effects															
	D1	High Quality Design		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	D2	Impact on Living Conditions		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	D3	Historic Environment		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	D4	Coordination of Development and Piecemeal Proposals		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	D5	Energy and Water Efficiency		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	D6	Water Resources		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	ID	Community Facilities and Open Space	Likely Significant Effects															
	CF1	Community and Leisure Facilities		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	CF2	Community and Leisure Facilities Outside of the Urban Area		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	CF3	Loss of a Community Facility		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	CF4	Educational Facilities Outside of the Urban Area Boundaries		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	CF5	Green Infrastructure		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	CF6	Protection and Provision of Open Space		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B

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				SAC						SPA					Ramsar			
	ID	Natural Environment	Likely Significant Effects															
	NE1	Landscape		D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	NE2	Biodiversity and Nature Conservation		D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	NE3	Solent Special Protection Areas		D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	NE4	Coastal Change Management Areas		D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
	NE5	New Moorings		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	ID	Infrastructure	Likely Significant Effects															
	I1	Infrastructure Delivery		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	T1	Sustainable Transport System		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	T2	Road Network Improvements		C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	RE1	Renewable and Low Carbon Energy		B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	ID	Development Allocations	Likely Significant Effects															
	DA1	Development Allocations	Atmospheric pollution; Water resources; Water pollution (strategic)	J	E	J	J	J	E	J	J	J	J	E	J	J	J	E

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			SAC						SPA					Ramsar			
		Assessment Key															
	A	General statement of policy / aspiration															
	B	Policy listing general criteria for testing the acceptability / sustainability of proposals															
	C	Proposal referred to but not proposed by the plan															
	D	Environmental protection / site safeguarding policy															
	E	Policy/proposal steers change in such a way as to protect European sites from adverse effects															
	F	Policy that cannot lead to development or other change															
	G	Policy/proposal that could not have any conceivable effect on a European site															
	H	Policy/proposal the (actual/theoretical) effects of which cannot undermine the conservation objectives (either alone or in combination with other aspects of this or any other plan/project)															
	I	Policy/proposal with a likely significant effect on a European site alone															
	J	Policy/proposal with an effect on a site but not likely to be significant alone; check for likely significant effects in combination															
	K	Policy/proposal not likely to have a significant effect either alone or in combination (after the in combination test)															
	L	Policy/proposal likely to have a significant effect in combination (after the in combination test)															

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