Milton Neighbourhood Plan

Habitats Regulation Assessment

Milton Neighbourhood Planning Forum

April 2020

Quality information

Prepared by	Checked by	Verified by	Approved by
Isla Hoffman Heap Senior Consultant Hannah Corrigan Graduate Ecologist	James Riley Technical Director	Max Wade Technical Director	James Riley Technical Director

Revision History

Name	Position	Actions Summary	Date
Isla Hoffmann Heap	Consultant Ecologist	Draft	25th July 2017
Paul Docking	Assistant Treasurer	Proof read and comments	6th September 2017
Isla Hoffmann Heap	Consultant Ecologist	Amendments following comments from the Neighbourhood Planning Forum review	19th September 2017
Mary Kucharska	Senior Consultant	Proof read	26th September 2017
Isla Hoffmann Heap	Consultant Ecologist	Amendments following Locality review	16th October 2017
Isla Hoffmann Heap	Senior Consultant	Amendments following Portsmouth City Council Comments	28/03/2018
Hannah Corrigan	Graduate ecologist	Updated following updated 2020 NP	16/04/2020

Prepared for:

Milton Neighbourhood Planning Forum

Prepared by:

AECOM Infrastructure & Environment UK Limited
Midpoint, Alencon Link
Basingstoke
Hampshire RG21 7PP
United Kingdom

T: +44(0)1256 310200
aecom.com

Table of Contents

Figures

Tables

1. Introduction

1.1 Background to the Project

AECOM was appointed by Milton Neighbourhood Planning Forum to assist in undertaking a Habitats Regulations Assessment (HRA) of the Milton Neighbourhood Plan 2017 – 2032 (hereafter referred to as the 'Milton NP' or 'NP'). The objectives of the assessment were to:

- Identify any aspects of the Neighbourhood Plan that would cause a likely significant effect on Natura 2000 sites, otherwise known as European sites (Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and, as a matter of Government policy, Ramsar sites), either in isolation or in combination with other plans and projects; and
- To advise on appropriate policy mechanisms for delivering mitigation where such effects were identified.

The adopted Portsmouth Local Plan Core Strategy (hereafter referred to as the 'Portsmouth LP') 2012-2027 was subject to HRA in 2011. The primary conclusion of that HRA, which is of relevance to Milton Parish, was the need to address issues of coastal squeeze, loss of functionally linked habitat, water quality, water abstraction, recreational pressures and air pollution. The HRA recommended policy mechanisms for this that are reflected in the adopted Local Plan, and where applicable, discussed herein.

The Portsmouth LP does not allocate specific development allocations in Milton, and at the time the HRA of the Portsmouth LP was prepared the quantum of development in Milton was not final and/or policy allocations at Milton were deleted from the previously adopted 2006 LP. However, the overall scale of growth expected within Portsmouth was assessed (up to 12,800 dwellings). The objective of this particular HRA is to identify if any NP site allocation and/or other policies have the potential to cause an adverse effect on the integrity European Sites, either in isolation or in combination with other plans and projects, and to determine whether site-specific or policy mitigation measures are required.

While the 2012 Portsmouth LP does not allocate development at Milton it is expected that the emerging Portsmouth City Local Plan for the period up to 2036 will potentially allocate development at two sites in Milton: St James Hospital and Langstone Campus (based on the Portsmouth City Council Local Plan Issues and Options 2017 document[1]). The emerging LP is expected to provide a minimum of net development of 17,260 dwellings across Portsmouth until 2036; however, this figure is yet to be confirmed.

1.2 Legislation

The need for HRA is set out within the Conservation of Habitats & Species Regulations 2017 (as amended) and concerns the protection of European sites. European sites (also called Natura 2000 sites) can be defined as actual or proposed/candidate Special Areas of Conservation (SAC) or Special Protection Areas (SPA). It is also Government policy for sites designated under the Convention on Wetlands of International Importance (Ramsar sites) to be treated as having equivalent status to Natura 2000 sites.

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

Conservation of Habitats and Species Regulations 2017 (as amended)

With specific reference to Neighbourhood Plans, Regulation 106(1) states that:

"*A qualifying body which submits a proposal for a neighbourhood development plan must provide such information as the competent authority* [the Local Planning Authority] *may reasonably require for the purpose of the assessment under regulation 105…* [which sets out the formal process for determination of 'likely significant effects' and the appropriate assessment']."

Box 1: The legislative basis for HRA

[1] Portsmouth City Council (2019). *The Local Plan.* Available online: https://www.portsmouth.gov.uk/ext/development-and-planning/planning-policy/the-local-plan, accessed: 16/04/2020.

It is therefore important to note that this report has two purposes:

- To assist the Qualifying Body (Milton Parish Council) in preparing their plan by recommending (where necessary) any adjustments required to protect European sites, thus making it more likely their plan will be deemed compliant with the Conservation of Habitats and Species Regulations 2017 (as amended); and
- On behalf of the Qualifying Body, to assist the Local Planning Authority (Portsmouth City Council) to discharge their duty under Regulation 105 (in their role as 'plan-making authority' within the meaning of that regulation) and Regulation 106 (in their role as 'competent authority').

As 'competent authority', the legal responsibility for ensuring that a decision of 'likely significant effects' is made, for ensuring an 'appropriate assessment' (where required) is undertaken, and for ensuring Natural England are consulted, falls on the local planning authority. However, they are entitled to request from the Qualifying Body the necessary information on which to base their judgment and that is a key purpose of this report.

Over the years, 'Habitats Regulations Assessment' (HRA) has come into wide currency to describe the overall process set out in the Habitats Regulations, from screening through to identification of IROPI. This has arisen in order to distinguish the overall process from the individual stage of "Appropriate Assessment". Throughout this Report the term HRA is used for the overall process and restricts the use of Appropriate Assessment to the specific stage of that name.

1.3 Scope of the Project

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

- All sites within the Neighbourhood Plan area boundary; and
- Other sites shown to be linked to development within the boundary through a known 'pathway'.

Briefly defined, pathways are routes by which a change in activity within the Neighbourhood Plan area can lead to an effect upon a European site. In terms of the second category of European site listed above, guidance from the Department of Communities and Local Government states that the HRA should be '*proportionate to the geographical scope of the* [plan policy]' and that '*an AA need not be done in any more detail, or using more resources, than is useful for its purpose'* (CLG, 2006, p.6). More recently, the Court of Appeal[2] ruled that providing the Council (competent authority) was duly satisfied that necessary mitigation could be '*achieved in practice'* to ensure that the proposed development would have no adverse effect, then this would suffice. This ruling has since been applied to a planning permission[3]. In this case the High Court ruled that for '*a multistage process, so long as there is sufficient information at any particular stage to enable the authority to be satisfied that the proposed mitigation can be achieved in practice it is not necessary for all matters concerning mitigation to be fully resolved before a decision maker is able to conclude that a development will satisfy the requirements of the Habitats Regulations'*.

There are four European designated sites located within 5km of the Milton Neighbourhood Plan: The Chichester & Langstone Harbours Ramsar site/SPA and the Solent Maritime SAC, Solent and Dorset Coast potential SPA and Portsmouth Harbour SPA/Ramsar. The location of the Neighbourhood Plan area and European designated sites are illustrated in Figure 3.

No other European designated sites are located within the Zone of Influence of the Neighbourhood Plan area.

The Neighbourhood Plan does not exist in isolation but constitutes the latest (but not final) stage of a multi-tier process, with the higher (i.e. more strategic) tier constituting the Portsmouth Plan. The Portsmouth Core Strategy already has an HRA that examines strategic issues on European sites such as Chichester and Langstone Harbours SPA/Ramsar and Portsmouth Harbour SPA/Ramsar and identified that the level of development intended for Portsmouth as a whole could be delivered without adverse effects on the integrity of European sites, subject to mitigation.

[2] No Adastral New Town Ltd (NANT) v Suffolk Coastal District Council Court of Appeal, 17th February 2015
[3] High Court case of R (Devon Wildlife Trust) v Teignbridge District Council, 28 July 2015

1.4 This Report

Chapter 2 of this report explains the process by which the HRA has been carried out. Chapter 3 details the features for which the European designated sites are designated and identifies potential environmental vulnerabilities. Impact pathways are described in Chapter 4. Chapter 5 is the screening assessment of Neighbourhood Plan Policies and identifies policies that have been screened in for further consideration. Appropriate assessment is undertaken in Chapter 6, including recommended changes. Conclusions are discussed in Chapter 6.

2. Methodology

2.1 Introduction

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

Figure 1: Four Stage Approach to Habitats Regulations Assessment. Source GOV.UK, 2019.

2.2 HRA Task 1 – Likely Significant Effects (LSE)

Following evidence gathering, the first stage of any Habitats Regulations Assessment is a Likely Significant Effect (LSE) test - essentially a risk assessment to decide whether the full subsequent stage known as Appropriate Assessment is required. The essential question is:

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

The objective is to 'screen out' those plans and projects that can, without any detailed appraisal, be said to be unlikely to result in significant adverse effects upon European sites, usually because there is no mechanism for an adverse interaction with European sites. This stage is undertaken in Chapter 4 of this report.

2.3 HRA Task 2 – Appropriate Assessment (AA)

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

During July 2019 the Ministry of Housing, Communities and Local Government published guidance for Appropriate assessment[4]. Paragraph: 001 Reference ID: 65-001-20190722m explains: '*Where the potential for likely significant effects cannot be excluded, a competent authority must make an appropriate assessment of the implications of the plan or project for that site, in view of the site's conservation objectives. The competent authority may agree to the plan or project only after having ruled out adverse effects on the integrity of the habitats site. Where an adverse effect on the site's integrity cannot be ruled out, and where there are no alternative solutions, the plan or project can only proceed if there are imperative reasons of over-riding public interest and if the necessary compensatory measures can be secured*'.

As this analysis follows on from the screening process, there is a clear implication that the analysis will be more detailed than undertaken at the Screening stage and one of the key considerations during appropriate assessment is whether there is available mitigation that would entirely address the potential effect. In practice, the appropriate assessment takes any policies or allocations that could not be dismissed following the high-level screening analysis and analyses the potential for an effect in more detail, with a view to concluding whether there would be an adverse effect on integrity (in other words, disruption of the coherent structure and function of the European site(s)).

A decision by the European Court of Justice[5] concluded that measures intended to avoid or reduce the harmful effects of a proposed project on a European site may no longer be taken into account by competent authorities at the Likely Significant Effects or 'screening' stage of HRA. The UK is no longer part of the European Union. However, as a precaution, it is assumed for the purposes of this HRA that EU case law regarding Habitat Regulations Assessment will still be considered informative jurisprudence by the UK courts. That ruling has therefore been considered in producing this HRA.

Also, in 2018 the Holohan ruling[6] was handed down by the European Court of Justice. Among other provisions paragraph 39 of the ruling states that '*As regards other habitat types or species, which are present on the site, but for which that site has not been listed, and with respect to habitat types and species located outside that site, … typical habitats or species must be included in the appropriate assessment, if they are necessary to the conservation of the habitat types and species listed for the protected area*' [emphasis added]. This has been taken into account in the HRA process.

2.4 HRA Task 3 – Avoidance and Mitigation

Where necessary, measures are recommended for incorporation into the Plan in order to avoid or mitigate adverse effects on European sites. There is considerable precedent concerning the level of detail that a Neighbourhood Plan document needs to contain regarding mitigation for recreational impacts on European sites. The implication of this precedent is that it is not necessary for all measures that will be deployed to be fully developed prior to adoption of the Plan, but the Plan must provide an adequate policy framework within which these measures can be delivered.

In evaluating significance, AECOM has relied on professional judgement and the LP HRA regarding development impacts on the European sites considered within this assessment.

When discussing 'mitigation' for a Neighbourhood Plan document, one is concerned primarily with the policy framework to enable the delivery of such mitigation rather than the details of the mitigation measures themselves since the Local Development Plan document is a high-level policy document. A Neighbourhood Plan is a lower level constituent of a Local Development Plan.

2.5 Other Plans and Projects That May Act in Combination

It is a requirement of the Regulations that the impacts of any land use plan being assessed are not considered in isolation but in combination with other plans and projects that may also be affecting the European site(s) in question.

In considering the potential for regional housing development on European sites the primary consideration is the impact of visitor numbers – i.e. recreational pressure and urbanisation.

When undertaking this part of the assessment it is essential to bear in mind the principal intention behind the legislation i.e. to ensure that those projects or plans (which in themselves may have minor impacts) are not simply

4 https://www.gov.uk/guidance/appropriate-assessment#what-are-the-implications-of-the-people-over-wind-judgment-for-habitats-regulations-assessments [Accessed: 02/04/2020].
5 People Over Wind and Sweetman v Coillte Teoranta (C-323/17)
6 Case C-461/17

dismissed on that basis, but are evaluated for any cumulative contribution they may make to an overall significant effect. In practice, in combination assessment is therefore of greatest relevance when the plan would otherwise be screened out because its individual contribution is inconsequential.

3. European Sites

3.1 Chichester & Langstone Harbours Ramsar Site and SPA

3.1.1 Introduction

Chichester and Langstone Harbours internationally designated sites are located on the south coast in West Sussex and East Hampshire. They cover approximately 5810ha of sheltered estuarine basins comprising extensive sand and mudflats 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 mudflats are rich in invertebrates and also support extensive beds of algae, and eelgrasses *Zostera spp*. The basin contains 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 in winter.

3.1.2 Reasons for Designation

The SPA is designated for:

- Internationally important wintering populations of dark-bellied brent goose, pintail, shoveler, teal, wigeon, ruddy turnstone, sanderling, dunlin, ringed plover, bar-tailed godwit, whimbrel, red-breasted merganser, grey plover, shelduck, common redshank.
- Internationally important breeding population of little tern, common tern and sandwich tern.
- Over winter the area regularly supports: 93230 waterfowl (5 year peak mean 01/04/1998) Including: *Branta bernicla bernicla*, *Tadorna tadorna*, *Anas penelope*, *Anas crecca*, *Anas acuta*, *Anas clypeata*, *Mergus serrator, Charadrius hiaticula, Pluvialis squatarola, Calidris alba, Calidris alpina alpina, Limosa lapponica, Numenius arquata, Tringa totanus, Arenaria interpres*

The Ramsar site is designated for the following criterion illustrated in Table 1.

Table 1. Ramsar criterion for Chichester & Langstone Harbours

Ramsar Criterion	Description of Criterion	Chichester & Langstone Harbours
1	A wetland should be considered internationally important if it contains a representative, rare, or unique example of a natural or near-natural wetland type found within the appropriate biogeographic region.	Two large estuarine basins linked by the channel which divides Hayling Island from the main Hampshire coastline. The site includes intertidal mudflats, saltmarsh, sand and shingle spits and sand dunes
5	A wetland should be considered internationally important if it regularly supports 20,000 or more waterbirds.	**Species with peak counts in winter:** 76480 waterfowl (5 year peak mean 1998/99-2002/2003)
6	A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird.	**Qualifying Species/populations (as identified at designation):** Species with peak counts in spring/autumn: • Ringed plover *Charadrius hiaticula (*Europe/Northwest Africa) • Black-tailed godwit *Limosa limosa islandica* (Iceland/W Europe) • Common redshank *Tringa totanus* Species with peak counts in winter: • Dark-bellied brent goose *Branta bernicla bernicla* • Common shelduck *Tadorna tadorna*, (NW Europe) • Grey plover *Pluvialis squatarola*, (E Atlantic/W Africa – wintering) • Dunlin Calidris *alpina alpina*, (W Siberia/W Europe)

Species regularly supported during the breeding season:

- Little tern *Sterna albifrons albifrons*, (W Europe)

3.1.3 Historic Trends and Current Pressures

The key environmental vulnerabilities of the SPA/ Ramsar site are:

- Coastal squeeze.
- Unpolluted water.
- Absence of nutrient enrichment of water.
- Minimal recreational and other disturbance.
- Absence of non-native species e.g. from shipping activity.
- Maintenance of appropriate hydrological regime, e.g. freshwater flows at heads of channels are important for birds to preen, drink and feed.
- Short grasslands surrounding the site are essential to maintaining interest features as they are now the key foraging resource for dark-bellied brent goose.

3.1.4 Conservation Objectives[7]

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed in Section 3.1.2), and subject to natural change, the following conservation objectives apply:

'*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.'*

3.2 Solent Maritime SAC

3.2.1 Introduction

Solent Maritime SAC is 11325ha in size and located on the south coast within West Sussex and East Hampshire. Habitats on site include: marine areas, sea inlets (14%), tidal rivers, estuaries, mud flats, sand flats, lagoons (including saltwork basins) (59%), salt marshes, salt pastures, salt steppes (23%), coastal sand dunes, sand beaches, machair (0.5%), shingle, sea cliffs, islets (3%), and broad-leaved deciduous woodland (0.5%).The SAC also include Chichester and Langstone Harbours SPA and Ramsar site.

3.2.2 Reasons for Designation

The SAC is designated for:

Annex 1 habitats that includes

- Estuaries

[7] JNCC (2015) Natura 2000 – Standard Data Form: Chichester & Langstone Harbours SPA

- Spartina swards *Spartinion maritimae*
- Atlantic salt meadows
- Sandbanks which are slightly covered by sea water all the time
- Mudflats and sandflats not covered by seawater at low tide
- Coastal lagoons * Priority feature
- Annual vegetation of drift lines
- Perennial vegetation of stony banks
- Salicornia and other annuals colonizing mud and sand
- "Shifting dunes along the shoreline with *Ammophila arenaria* (""white dunes"")"

Annex 2 species

- Desmoulin's whorl snail *Vertigo moulinsiana*

3.2.3 Historic Trends and Current Pressures

The key environmental vulnerabilities of the SAC site are:

- Existing and proposed flood defence and coast protection works;
- Coastal squeeze of intertidal habitats due to coastal erosion/ sea level rise and sea-walls/ development in the hinterland;
- Developments pressures including ports, marinas, jetties etc. Proposals often involve capital/ maintenance dredging to provide/ improve deep water access, and land-claim of coastal habitats;
- Potential accidental pollution from shipping, oil/chemical spills, heavy industrial activities, former waste disposal sites and waste-water discharge;
- Introduction of non-native species e.g. from shipping activity.

3.2.4 Conservation Objectives[8]

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed in Section 3.2.2), and subject to natural change, the following conservation objectives apply:

'*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;*

- *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 populations of qualifying species, and,*
- *The distribution of qualifying species within the site.'*

3.3 Portsmouth Harbour Ramsar Site and SPA

3.3.1 Introduction

Portsmouth Harbour is located on the central south coast of England. It is a large estuary and includes one of the four largest expanses of mudflats and tidal creeks on the south coast of Britain. The mudflats support large beds of Narrow-leaved Eelgrass *Zostera angustifolia* and Dwarf Eelgrass *Z. noltii*. Portsmouth Harbour has only a narrow connection to the sea via the Solent, and receives comparatively little fresh water, thus giving it an unusual

[8] JNCC (2015) Natura 2000 – Standard Data Form: Solent Maritime SAC

hydrology. The site supports important numbers of wintering Dark-bellied Brent Goose *Branta b. bernicla*, which feed also in surrounding agricultural areas away from the SPA.

3.3.2 Reasons for Designation

The SPA is designated for:

- Internationally important wintering populations of dark-bellied brent goose.
- Over winter the area regularly supports: *Mergus serrator*; Red-breasted merganser (Non-breeding), *Calidris alpina alpina*; Dunlin (Non-breeding), *Limosa limosa islandica*; Black-tailed godwit (Non-breeding).

The Ramsar site is designated for the following criterion illustrated in Table 2.

Table 2. Ramsar criterion for Portsmouth Harbour

Ramsar Criterion	Description of Criterion	Portsmouth Harbour
3	A wetland should be considered internationally important if it supports populations of plant and/or animal species important for maintaining the biological diversity of a particular biogeographic region.	The intertidal mudflat areas possess extensive beds of eelgrass *Zostera angustifolia* and *Zostera noltei* which support the grazing dark-bellied brent geese 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.
6	A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird.	**Qualifying Species/populations (as identified at designation):** Species with peak counts in winter: Dark-bellied brent goose, *Branta bernicla bernicla*

3.3.3 Historic Trends and Current Pressures

The key environmental vulnerabilities of the SPA/ Ramsar site are:

- Human disturbance to birds i.e. dog walking
- Recreational activities which affect annual vegetation of drift lines and stony banks
- Coastal squeeze to saltmarsh habitats due to rising sea levels and maintenance of coastal defences
- Commercial fisheries including dredges, benthic trawls and shore based activities and impacts to intertidal muddy sand communities
- Water pollution
- Erosion of saltmarsh habitats
- Introduction of non-native species e.g. from shipping activity.

3.3.4 Conservation Objectives[9]

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed in Section 3.3.2), and subject to natural change, the following conservation objectives apply:

[9] JNCC (2015) Natura 2000 – Standard Data Form: Portsmouth Harbour SPA

'*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*.'

3.4 Solent and Dorset Coast SPA

3.4.1 Introduction

The Solent and Dorset Coast SPA was proposed to protect important marine foraging areas for three species of tern (common tern, sandwich tern, little tern). The site is located on the south coast of England in the British Channel, extending from the Isle of Purbeck in the west to Bognor Regis in the east.

The main rationale underpinning the potential designation is that the four breeding tern species have recorded mean foraging ranges between 4.5km and 12.2km from their nesting sites, with maximum distances of 15.2km and 49km respectively. Given that the ranges identified for little terns (which underpin many of the SPA site boundaries on the south coast of England) are unlikely to be representative for the larger tern species, boat-tracking studies of individual foraging birds were undertaken. The results fed into habitat usage models for each tern species, accounting for the maximum identified foraging range around tern colonies.

Since its identification as a pSPA, Natural England has confirmed the recommendation of the Solent and Dorset Coast pSPA to be classified on the basis of the available scientific evidence. The Solent and Dorset Coast SPA was formally designated on the 16th January 2020.

3.4.2 Qualifying Features[10]

Species listed under Annex I of the Birds Directive:

- Sandwich tern *Sterna sandvicensis*; 441 pairs representing 4.01% of the GB breeding population (count between 2008 – 2014)
- Common tern *Sterna hirundo*; 492 pairs representing 4.77% of the GB breeding population (count between 2009 – 2014)
- Little tern *Sternula albifrons*; 63 pairs representing 3.31% of the GB breeding population (count between 2009 – 2014)

3.4.3 Conservation Objectives[11]

'*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,*

[10] https://sac.jncc.gov.uk/site/UK0030138 [Accessed on the 02/03/2020]
[11] http://publications.naturalengland.org.uk/publication/5294923917033472 [Accessed on the 02/03/2020]

3.4.4 *The distribution of the qualifying features within the site*.' Historic trends and current pressures[12]

Natural England is yet to publish a Site Improvement Plan for the Solent and Dorset Coast. However, the threats and pressures to site integrity are likely to be similar than for other European sites designated for terns. Potential issues include:

- Public access / disturbance
- Fisheries: Commercial marine and estuarine
- Water pollution
- Changes in species distributions
- Climate change
- Changes to site conditions
- Biological resource use
- Air pollution: Risk of atmospheric nitrogen deposition
- Hydrological changes
- Extraction: Non-living resources.

[12] http://publications.naturalengland.org.uk/publication/5623422855938048 [Accessed on the 02/03/2020]

4. Impact pathways

4.1 Coastal squeeze

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

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

The North Solent Shoreline Management Plan units for Chichester and Langstone Harbours indicate that there will be a combination of 'Hold the Line', 'Managed Realignment' and 'Adaptive Management' strategies[13] [14].

In order to conclude that development in Milton would not lead to a significant adverse effect as a result of coastal squeeze, it will be necessary to conclude that the NP would not require the SMP (or resulting Coastal Strategy) policies for the frontage to be altered and would not be situated in such as position as to require new defences in currently undefended parts of the coastline or locate development in areas planned for managed realignment in the SMP or the Environment Agency Regional Habitat Creation Programme.

4.2 Functionally linked habitat

While most European sites have been geographically defined to encompass the key features that are necessary for coherence of their structure and function, and the support of their qualifying features, this is not always the case. A diverse array of qualifying species including birds, bats and amphibians are not confined to the boundary of designated sites.

For example, the highly mobile nature of both wildfowl and heathland birds implies that areas of habitat of crucial importance to the maintenance of their populations are outside the physical limits of European sites. Despite not being part of the formal designation, this habitat is still integral to the maintenance of the structure and function of the interest feature on the designated site and, therefore, land use plans that may affect such areas should be subject to further assessment. Examples of other mobile qualifying species are great-crested newts and bats.

Chichester and Langstone Harbours SPA/Ramsar sites are notified partly for their over-wintering populations of brent goose (*Branta bernicla bernicla*). However, studies have identified that many feeding sites for this species around the Solent fall outside of the statutory nature conservation site boundaries. The majority of brent goose feeding sites are amenity/recreation grasslands with little intrinsic nature conservation interest, and therefore are vulnerable to loss or damage from development. This also applies to some high tide wader roosts in the Solent. This issue is addressed by the Solent Recreation Mitigation Strategy[15], and specific mitigation guidance is provided in the Solent Waders and Brent Goose Strategy: Interim Guidance on Mitigation and Off-setting Requirements[16]. As part of this Strategy, a network of terrestrial non-designated sites used by brent goose and waders has been identified, in which sites are categorised according to their importance to brent goose and wader populations using the following system:

[13] North Solent SMP (2020). *North Solent Shireline Management Plan.* Available online at: http://www.northsolentsmp.co.uk/, accessed 06/04/2020.
[14] North Solent SMP (2011). North Solent Shoreline Management Plan Appendix J: Appropriate Assessment. Available online at: http://www.northsolentsmp.co.uk/9907, accessed 06/04/2020
[15] Bird Aware Solent. (2017) Solent Recreation Mitigation Strategy. December 2017.
[16] Solent Waders and Brent Goose Strategy Steering Group. (2018) Solent Waders and Brent Goose Strategy: Interim Guidance on Mitigation and Off-setting Requirements. March 2018.

- **Core Areas** – sites identified as having a network value and/or have a maximum Brent goose and/or wader count of at least 1000 and/or have the maximum score of 7 in at least three metrics;
- **Primary Areas** – sites with a score of 3-6;
- **Secondary Support Areas** – sites with a score of 1-2 and/or have a maximum bird count of at least 100 for brent goose or any wader species;
- **Low Use** – sites in which low numbers of brent goose and/or waders have been recorded (score 0); and
- **Candidate Sites** – sites in which high numbers of brent goose and/or waders have been recorded (at least 100 birds) and/or a score of at least 3 but have fewer than three records in total.

4.3 Water Quality

An increased amount of residential or employment development can lead to reduced water quality of rivers and estuarine environments. Sewage and industrial effluent discharges can result in an increased nutrient input to European sites leading to unfavourable conditions[17] [18]. Diffuse pollution, for example due to urban run-off, has been identified during an Environment Agency Review of Consents process and a joint Environment Agency and Natural England evidence review, as being a major pollutant for aquatic ecosystems.

The quality of the water that feeds European sites is an important determinant of the nature of their habitats and the species they support. Poor water quality can have a range of environmental impacts:

- At high levels, toxic chemicals and metals can result in immediate death of aquatic life, and can have detrimental effects even at lower levels, including increased vulnerability to disease and changes in wildlife behaviour.
- Eutrophication, the enrichment of plant nutrients in water, increases all biological activity and leads to significant changes in the composition and structure of aquatic food webs. Two of the most frequent eutrophication effects are shifts in algal species compositions and the frequency of nuisance algal blooms[19]. These blooms have a multitude of consequences, including changes in vascular plant production (and biomass and species composition), reduced water clarity, increased pH, dissolved oxygen depletion and, ultimately, an increased likelihood of death of ecologically and economically important animal species[20]. The decomposition of organic wastes that often accompanies eutrophication deoxygenates water further, augmenting the oxygen depleting effects of eutrophication. In the marine environment, nitrogen is the limiting plant nutrient and so eutrophication is associated with discharges containing available nitrogen.
- Some pesticides, industrial chemicals, and components of sewage effluent are suspected to interfere with the functioning of the endocrine system, possibly having negative effects on the reproduction and development of aquatic life.
- Increased discharge of treated sewage effluent can result in high levels of macroalgal growth, smothering sandflats and mudflats, and in increased scour (as a result of greater flow volumes).

At sewage treatment works, additional residential development increases the risk of effluent escape into aquatic environments in addition to consented discharges to the catchment. In many urban areas, sewage treatment and surface water drainage systems are combined, and therefore a predicted increase in flood and storm events could increase pollution risk.

The most likely problem arising from the Milton NP is the discharge of treated sewage effluent, that could increase the input of phosphorus and nitrogen into coastal SAC, SPA and Ramsar sites. Water quality is listed as one threat to the site integrity of these European sites in the respective Natural England Site Improvement Plans.

Water quality issues are typically tackled at the Local Plan level with the involvement of water companies, Natural England and the Environment Agency. These organisations operate on a strategic scale and wastewater is treated as sewage works serving multiple parishes. Therefore, issues of water quality at Milton are inherently in-

[17] Rabalais, N.N., 2002. Nitrogen in aquatic ecosystems. *AMBIO: A Journal of the Human Environment*, *31*(2), pp.102-113.

[18] Howarth, R.W. and Marino, R., 2006. Nitrogen as the limiting nutrient for eutrophication in coastal marine ecosystems: evolving views over three decades. *Limnology and Oceanography*, *51*(1part2), pp.364-376.
[19] Smith V.H., Joye S.B. & Howarth R.W. 2006. Eutrophication of freshwater and marine ecosystems. Limnology and Oceanography 51: 351-355.
[20] Smith V.H., Tilman G.D. & Nekola J.C. 1999. Eutrophication: Impacts of excess nutrient inputs on freshwater, marine, and terrestrial ecosystems. Environmental Pollution 100: 179-196.

combination with neighbouring parishes. The quality of water within the Solent (i.e. including Portsmouth and Milton) is incredibly important for the features supported by European Sites. There are high levels of nitrogen and phosphorus input to this water environment with sound evidence that these nutrients are causing eutrophication at these designated sites. These nutrient inputs currently mostly come either from agricultural sources or from wastewater from existing housing and other development. The resulting dense mats of green algae and other effects on the marine ecology from an excessive presence of nutrients are impacting on the Solent's protected habitats and bird species. There is uncertainty as to whether new growth will further deteriorate designated sites. One way to address this is for a new development within the Solent region to achieve nutrient neutrality. In March 2020, advice on achieving nutrient neutrality for new development in the Solent region was published by Natural England[21]. This advice provides detail guidance for new development to achieve nutrient neutrality in order to alleviate the burden at threatened European Sites.

4.4 Water abstraction

Water abstraction is the removal of water, which can be permanent or temporary, from water bodies such as rivers, lakes, canals, reservoirs or from groundwater. Abstraction of water can impact natural flow regime of water bodies either directly (i.e. removal of water) or indirectly (i.e. impacting surface run off)[22]. The natural flow regime of a water habitat is the primary environmental condition that defines a particular habitat. Therefore, altering these habitats by the removal of water can significantly impact ecological conditions and the species they support.

Portsmouth Water is responsible for water supply to the whole of Portsmouth, while water for Portsmouth is extracted from freshwater sources there is a risk that freshwater supply to coastal European Sites (Solent and Maritime SAC and Chichester and Langstone Harbours SPA/Ramsar most notable) could impact ecological integrity of the intertidal zones of coastal sites. Given that water companies and associated management plan operation over large spatial scales, the impacts of water absration for public water supply are inherently in-combination with the parishes of Portsmouth and indeed neighbouring local authorities.

At the time of the adopted Portsmouth LP, during the Critical Period Peak Demand the LP HRA reported that water available for use '*falls below the required Total Demand plus Headroom and the shortfall grows to a total of 14 Ml/d by 2034/35'*. Therefore, the following management and resource development measures were developed by Portsmouth Water:

- '*A compulsory metering programme utilising Automatic Meter Reading (AMR) technology over a 15 year period from 2015 to 2030. By delaying the start of this programme until 2015 the company intends to draw on experience gathered by Southern Water, which is implementing a similar programme from 2010 to 2015; Portsmouth Core Strategy Habitats Regulations Assessment: Appropriate Assessment July 2011 UE-0046_PCC_AA_12_190711NP UE Associates Ltd 2011 70.*
- *A programme of leakage savings delivering a 3Ml/d leakage reduction between 2015 and 2020.*
- *The construction of a Washwater Recovery Plant at Farlington Water Treatment Works in 2017/18.*
- *The development of Havant Thicket Winter Storage Reservoir, to maximise the surplus winter yield of its existing Havant and Bedhampton Springs abstraction licences which has undergone Habitats Regulations Assessment, between 2025 and 2035*.'

Based on this, the LP HRA concluded that '*on implementing reductions required to maintain favourable conservation status at European sites in the area, the assessment demonstrates that there are no adverse effects from water abstraction associated with the Core Strategy*.'

Since that time, Portsmouth Water's 2019 Water Resource Management Plan[23] reports that '*implementation of the preferred plan results in a small but increasing surplus in resource over the planning period under the annual average scenario. The surplus is largely generated as a result of the economic and programme appraisal methods which have been utilised to ensure that the smaller demand management measures are included…. After*

[21] Natural England (2020). *Advice on achieving nutrient neutrality for new development in the Solent region*. Available online: https://www.push.gov.uk/wp-content/uploads/2020/03/Advice-on-Achieving-Nutrient-Neutrality-for-New-Deveopment-in-the-Solent-Region-March-2020.pdf, accessed 21/04/2020.
[22] Defra (2013). Managing Abstraction and water environment. Available online at: https://consult.defra.gov.uk/water/abstraction-reform/supporting_documents/abstractreformconsultmanage20131217.pdf, accessed 07/04/2020.
[23] Portsmouth Water (2019). *Water resources planning.* Available online: https://www.portsmouthwater.co.uk/news/publications/water-resources-planning/, accessed 21/04/2020.

submission of the Water Resource Management Plan (WRMP), the Company proposes to undertake further work to ensure successful delivery of this Plan. This work will include:

- *Commence the programme of works for water resource developments in the Final Plan, including Havant Thicket Winter Storage Reservoir*
- *Workstreams to improve confidence in the Final Plan*
- *Delivering environmental enhancements including the provision of updates on the progress on the various environmental studies and uncertainties and their implications*
- *Continued collaboration to achieve regulatory ambitions*

The Company will continue to work closely with the EA and other regulators and will inform the EA of progress against its preferred final planning solution through the Annual Review process on its WRMP.'

In addition, the Strategic Environmental Assessment of Portsmouth Water's final WRMP[24] states '*Natural England broadly welcomes the principle of developing a winter storage reservoir at Havant Thicket as a key element of the water resource planning in the dWRMP. By enabling the export of larger bulk supplies, the reservoir provides a key part of the solution to sustainability reductions required from Southern Water licence abstractions on the River Itchen SAC and River Test SSSI. These reductions are necessary to meet the conservation requirements of these two rivers in relation to their SAC and SSSI objectives on flow. Indirectly the reservoir will benefit the conservation of the Rivers Itchen and Test and, being in close proximity to important bird areas on the Solent (including large SPAs), is likely to attract an important freshwater bird interest if suitable habitat and sanctuary conditions are provided. These are highly significant positive impacts'.*

It is considered, Portsmouth City Council have demonstrated a sound understanding for the environmental impacts of excessive water abstraction and are collaborating with Portsmouth Water (and Southern Water) to improve water resource use throughout the district. These efforts will directly apply to water resources at Milton Parish. Therefore, likely significant effects to European Sites with regards to water resources and abstraction are not expected and is scoped out from further discussion.

4.5 Recreational Pressure

Recreational use of a European site has the potential to:

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

Different types of European sites are subject to different types of recreational pressures and have different vulnerabilities. Studies across a range of species have shown that the effects from recreation can be complex[25] [26] [27] [28].

4.5.1 Disturbance

Concern regarding the effects of disturbance on birds stems from the fact that they are expending energy unnecessarily and the time they spend responding to disturbance is time that is not spent feeding. Disturbance therefore risks increasing energetic output while reducing energetic input, which can adversely affect the 'condition'

[24] Wood (2019). *Strategic Environmental Assessment of the Final Water Resources Management Plan 2019. Post adoption statement.* Available online: https://www.portsmouthwater.co.uk/wp-content/uploads/2019/11/Portsmouth-Water-WRMP-SEA-PAS_FINAL.pdf, accessed: 21/04/2020

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

[26] Cole, D.N. (1995a) Experimental trampling of vegetation. I. Relationship between trampling intensity and vegetation response. *Journal of Applied Ecology* 32: 203-214.
Cole, D.N. (1995b) Experimental trampling of vegetation. II. Predictors of resistance and resilience. *Journal of Applied Ecology* 32: 215-224.

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

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

and ultimately survival of the birds. In addition, displacement of birds from one feeding site to others can increase the pressure on the resources available within the remaining sites as they must sustain a greater number of birds.

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

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

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

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

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

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

Access management – restricting access to some or all of a European site - is not usually within the remit of the Parish or District Council and restriction of access may contravene a range of Government policies on access to open space, and Government objectives for increasing exercise, improving health etc. However, active management of access may be possible, such as that practised on nature reserves.

Habitat management is not within the direct remit of the Parish Council. However, the Council can help to set a framework for improved habitat management by promoting collaboration with neighbouring parishes and the LPA.

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

It is long standing knowledge that the Solent European Sites experience high levels of recreational pressure due to the strong recreational pull of coast sites and due to the scale of proposed housing growth within the district, Bird Aware Solent Strategy[29] aims to prevent bird disturbance from recreational activities through a series of management measures for visitors to the Solent and development proposals within the Solent. With regards to residential development, the strategy uses a 5.6km zone of influence that applies to all new residential developments proposed within this zone and requires financial developer contributions, according to bedroom number of each property, that are used to mitigated impacts or recreational pressures.

[29] https://solent.birdaware.org/media/29372/Bird-Aware-Solent-Strategy/pdf/Solent_Recreation_Mitigation_Strategy.pdf, accessed 21/04/2020

4.6 Atmospheric Pollution

The main pollutants of concern for European sites are oxides of nitrogen (NOx), ammonia (NH_3) and sulphur dioxide (SO_2) and are summarised in Table 2. Ammonia can have a directly toxic effect upon vegetation, particularly at close distances to the source such as near road verges[30]. NOx can also be toxic at high concentrations (far above the annual average critical level). However, in particular, high levels of NOx and NH_3 are likely to increase the total N deposition to soils, potentially leading to deleterious knock-on effects in resident ecosystems. Increases in nitrogen deposition from the atmosphere is widely known to enhance soil fertility and to lead to eutrophication. This often has adverse effects on the community composition and quality of semi-natural, nitrogen-limited terrestrial and aquatic habitats[31] [32].

Table 3: Main sources and effects of air pollutants on habitats and species[33]

Pollutant	Source	Effects on habitats and species
Sulphur Dioxide (SO_2)	The main sources of SO_2 are electricity generation, and industrial and domestic fuel combustion. However, total SO_2 emissions in the UK have decreased substantially since the 1980's. Another origin of sulphur dioxide is the shipping industry and high atmospheric concentrations of SO_2 have been documented in busy ports. In future years shipping is likely to become one of the most important contributors to SO_2 emissions in the UK.	Wet and dry deposition of SO_2 acidifies soils and freshwater, and may alter the composition of plant and animal communities. The magnitude of effects depends on levels of deposition, the buffering capacity of soils and the sensitivity of impacted species. However, SO_2 background levels have fallen considerably since the 1970's and are now not regarded a threat to plant communities. For example, decreases in Sulphur dioxide concentrations have been linked to returning lichen species and improved tree health in London.
Acid deposition	Leads to acidification of soils and freshwater via atmospheric deposition of SO_2, NOx, ammonia and hydrochloric acid. Acid deposition from rain has declined by 85% in the last 20 years, which most of this contributed by lower sulphate levels. Although future trends in S emissions and subsequent deposition to terrestrial and aquatic ecosystems will continue to decline, increased N emissions may cancel out any gains produced by reduced S levels.	Gaseous precursors (e.g. SO_2) can cause direct damage to sensitive vegetation, such as lichen, upon deposition. Can affect habitats and species through both wet (acid rain) and dry deposition. The effects of acidification include lowering of soil pH, leaf chlorosis, reduced decomposition rates, and compromised reproduction in birds / plants. Not all sites are equally susceptible to acidification. This varies depending on soil type, bed rock geology, weathering rate and buffering capacity. For example, sites with an underlying geology of granite, gneiss and quartz rich rocks tend to be more susceptible.
Ammonia (NH_3)	Ammonia is a reactive, soluble alkaline gas that is released following decomposition and volatilisation of animal wastes. It is a naturally occurring trace gas, but ammonia concentrations are directly related to the distribution of livestock. Ammonia reacts with acid pollutants such as the products of SO_2 and NO_x emissions to produce fine ammonium (NH_4+) - containing aerosol. Due to its significantly longer lifetime, NH_4+ may be transferred	The negative effect of NH_4+ may occur via direct toxicity, when uptake exceeds detoxification capacity and via N accumulation. Its main adverse effect is eutrophication, leading to species assemblages that are dominated by fast-growing and tall species. For example, a shift in dominance from heath species (lichens, mosses) to grasses is often seen.

[30] http://www.apis.ac.uk/overview/pollutants/overview_NOx.htm, accessed 01/04/2020.
[31] Wolseley, P. A.; James, P. W.; Theobald, M. R.; Sutton, M. A. **2006.** Detecting changes in epiphytic lichen communities at sites affected by atmospheric ammonia from agricultural sources. Lichenologist 38: 161-176
[32] Dijk, N. **2011.** Dry deposition of ammonia gas drives species change faster than wet deposition of ammonium ions: evidence from a long-term field manipulation Global Change Biology 17: 3589-3607
[33] Information summarised from the Air Pollution Information System (http://www.apis.ac.uk/)

Pollutant	Source	Effects on habitats and species
	much longer distances (and can therefore be a significant trans-boundary issue). While ammonia deposition may be estimated from its atmospheric concentration, the deposition rates are strongly influenced by meteorology and ecosystem type.	As emissions mostly occur at ground level in the rural environment and NH_3 is rapidly deposited, some of the most acute problems of NH_3 deposition are for small relict nature reserves located in intensive agricultural landscapes.
Nitrogen oxides (NO_x)	Nitrogen oxides are mostly produced in combustion processes. Half of NO_x emissions in the UK derive from motor vehicles, one quarter from power stations and the rest from other industrial and domestic combustion processes. In contrast to the steep decline in Sulphur dioxide emissions, nitrogen oxides are falling slowly due to control strategies being offset by increasing numbers of vehicles.	Direct toxicity effects of gaseous nitrates are likely to be important in areas close to the source (e.g. roadside verges). A critical level of NOx for all vegetation types has been set to 30 ug/m3. Deposition of nitrogen compounds (nitrates (NO_3), nitrogen dioxide (NO_2) and nitric acid (HNO_3)) contributes to the total nitrogen deposition and may lead to both soil and freshwater acidification. In addition, NO_x contributes to the eutrophication of soils and water, altering the species composition of plant communities at the expense of sensitive species.
Nitrogen deposition	The pollutants that contribute to the total nitrogen deposition derive mainly from oxidized (e.g. NO_x) or reduced (e.g. NH_3) nitrogen emissions (described separately above). While oxidized nitrogen mainly originates from major conurbations or highways, reduced nitrogen mostly derives from farming practices. The N pollutants together are a large contributor to acidification (see above).	All plants require nitrogen compounds to grow, but too much overall N is regarded as the major driver of biodiversity change globally. Species-rich plant communities with high proportions of slow-growing perennial species and bryophytes are most at risk from N eutrophication. This is because many semi-natural plants cannot assimilate the surplus N as well as many graminoid (grass) species. N deposition can also increase the risk of damage from abiotic factors, e.g. drought and frost.
Ozone (O_3)	A secondary pollutant generated by photochemical reactions involving NOx, volatile organic compounds (VOCs) and sunlight. These precursors are mainly released by the combustion of fossil fuels (as discussed above). Increasing anthropogenic emissions of ozone precursors in the UK have led to an increased number of days when ozone levels rise above 40ppb ('episodes' or 'smog'). Reducing ozone pollution is believed to require action at international level to reduce levels of the precursors that form ozone.	Concentrations of O_3 above 40 ppb can be toxic to both humans and wildlife, and can affect buildings. High O_3 concentrations are widely documented to cause damage to vegetation, including visible leaf damage, reduction in floral biomass, reduction in crop yield (e.g. cereal grains, tomato, potato), reduction in the number of flowers, decrease in forest production and altered species composition in semi-natural plant communities.

Sulphur dioxide emissions overwhelmingly derive from power stations and industrial processes that require the combustion of coal and oil, as well as (particularly on a local scale) shipping[34]. Ammonia emissions originate from agricultural practices[35], with some chemical processes also making notable contributions. As such, it is unlikely that material increases in SO_2 or NH_3 emissions will be associated with the Milton NP.

NOx emissions, however, are dominated by the output of vehicle exhausts (more than half of all emissions). A 'typical' housing development will contribute by far the largest portion to its overall NOx footprint (92%) through the associated road traffic. Other sources, although relevant, are of minor importance (8%) in comparison[36]. Emissions

[34] http://www.apis.ac.uk/overview/pollutants/overview_SO2.htm.
[35] Pain, B.F.; Weerden, T.J.; Chambers, B.J.; Phillips, V.R.; Jarvis, S.C. 1998. A new inventory for ammonia emissions from U.K. agriculture. Atmospheric Environment 32: 309-313
[36] Proportions calculated based upon data presented in Dore CJ et al. 2005. UK Emissions of Air Pollutants 1970 – 2003. UK National Atmospheric Emissions Inventory. http://www.airquality.co.uk/archive/index.php

of NOx could therefore be reasonably expected to increase because of a higher number of vehicles due to implementation of the Local Plan Documents.

According to the World Health Organisation, the critical NOx concentration (critical threshold) for the protection of vegetation is 30 µgm^{-3}; the threshold for sulphur dioxide is 20 µgm^{-3}. In addition, ecological studies have determined 'critical loads'[37] of atmospheric nitrogen deposition (that is, NOx combined with ammonia NH_3).

The Department of Transport's Transport Analysis Guidance stipulates that, beyond 200m, the contribution of vehicle emissions from the roadside to local pollution levels is not significant[38] (Figure 2). This is therefore the distance that has been used throughout this HRA in order to determine whether European sites are likely to be significantly affected by development outlined in the Local Plan.

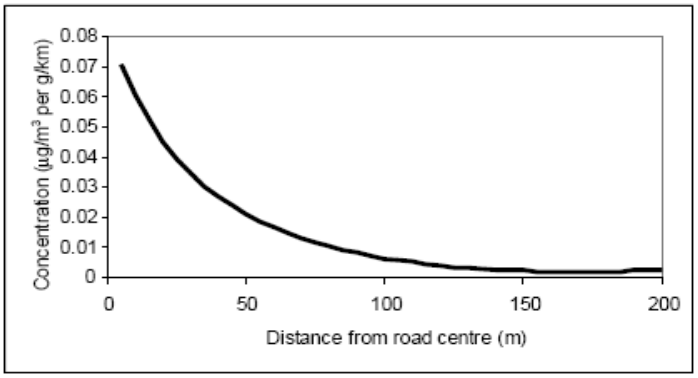

Figure 2: Traffic contribution to concentrations of pollutants at different distances from a road (Source: DfT[39])

Exhaust emissions from increased vehicle usage linked to residential and employment development are capable of adversely affecting most plants and potentially altering community composition. Considering this, an increase in the net population and potential employment growth as a result of the Milton NP could result in increased traffic adjacent to European sites that are sensitive to atmospheric pollution.

[37] The critical load is the rate of deposition beyond which research indicates that adverse effects can reasonably be expected to occur.
[38] http://www.dft.gov.uk/webtag/documents/expert/unit3.3.3.php#013 [Accessed on the 01/04/2020]
[39] http://www.dft.gov.uk/ha/standards/dmrb/vol11/section3/ha20707.pdf [Accessed on the 01/04/2020]

5. Test of Likely Significant Effects

Following the analysis of the draft Milton Neighbourhood Plan, Table 3 provides HRA screening assessment of the policies included. Green shading in the final column indicates that the policy has been screened out from further consideration due to the absence of any mechanism for an adverse effect on designated sites. Orange shading indicated that further assessment is required since a pathway of impact potentially exists that cannot be screened out at this point.

Table 4. Screening of Neighbourhood Plan Policies.

Policy	Policy Description	HRA Implications
Policy COM1. Safeguarding Community Facilities	Development proposals that affect existing community facilities in Milton will be considered for approval, providing they do not have any significant adverse impact on the community value of the facility.	No HRA implications. This is a development management policy relating to existing community facilities to ensure they are maintained. It does not identify any location, type or quantum of development. There are no impact pathways present.
Policy COM2. Public Houses	Development proposals involving the use and development of public houses will be considered for approval, providing: • the use as a public house continues as part of the scheme; • there is no significant adverse impact on the amenities of any nearby residential properties.	No HRA implications. This is a development management policy relating to the expansion or diversification of existing public houses which ensures that the core use of a public house should remain the same. It does not identify any location, type or quantum of development. There are no impact pathways present.
Policy COM3. New Community Facilities	New community facilities will be considered for approval, providing there is no significant adverse impact on: • the amenities of any nearby residential properties; • road safety.	No HRA implications. This is an enabling policy for new community facilities. Such facilities could include a school, or other educational uses, medical and other community uses. However, this policy does not identify any location, type or quantum of development. There are no impact pathways present.
Policy HSG1. Housing Mix	Residential development must include a balanced mix of house types to meet local need.	No HRA implications. This is a development management policy relating to the type and design of new residential development that will be permitted in Milton. Whilst this policy relates to the provision of new residential development, it does not explicitly provide any new quantum or location of development. There are no impact pathways.
Policy HSG2. Affordable Housing	Affordable housing provided as part of development proposals should be interspersed with open market housing.	No HRA implications. This is a development management policy which seeks to ensure new residential development includes affordable housing There are no impact pathways.
Policy HSG3. Housing Standards	New housing development must include: • secure, covered storage for cycles;	No HRA implications. This is a development management policy which relates to housing standards of new residential developments. It does not identify any quantum or location of development.

	• incorporate emerging Council Parking Standards of 0.75 spaces/1 bed unit; 1.25 • spaces/2 & 3 bed units and 1.75 spaces/4 bed unit and above • screened storage space for bins and recycling; • access to active outdoor space, whether in the form of gardens or shared open • space near to the housing that it serves. • all new development to adopt the higher standard of water efficiency under the Building Regulations (which relates to 110 litres/head/day including external water use and re-use) in line with best practice and consideration be given to the use of grey-water recycling systems and efficient appliances. • All new development proposals to submit a Project Level HRA to consider the effects of development on the Chichester and Langstone Harbour SPA, RAMSAR and SSSI within the Solent Maritime SAC • Innovative schemes that incorporate sustainable construction and low carbon • use, and renewable energy sources especially solar PV on south facing roofs.	There are no impact pathways.
Policy HSG4. Small Housing Schemes	The following types of housing are especially supported: • Self-build schemes incorporating sustainable construction, low carbon usage that maximise the opportunities of utilising renewable energy.	No HRA implications. This is a development management policy that relates to the design of small residential developments. It expresses support for development but makes no allocation and gives no indication of quantum or location. There are no impact pathways.
Policy EER1. Warren Avenue and Mallard Road Industrial Estate	Planning permission for the development of land and buildings in the Warren Avenue and Mallard Road Industrial Estate will be considered for approval where the proposed uses are compatible with other commercial and industrial uses. Compatible uses would include those falling in Use Classes B1, B2 and B8.	Potential HRA implications. This is a development management policy that supports development of land and buildings at Warren Avenue and Mallard Road Industrial Estate. It is located approximately 1.0km from Chichester and Langstone Harbours SPA and Ramsar site and the Solent Maritime SAC. The policy supports B1 (business), B2 (general Industrial) and B8 (storage and distribution) Use Classes. Dependant of the type and extent of development there is potential for the following impact pathways to be linked to European designated sites: • Atmospheric pollution.
Policy EER2. Employment	New development or changes of use to create light industry or office uses will be approved within the Milton area, subject to: • Causing no significant adverse impact on traffic congestion and safety; • Causing no significant adverse impact on the amenities of nearby residents; • Locating loading and service areas away from road frontages and providing suitable screening and landscaping.	Potential HRA implications. This is a development management policy which sets out environmental criteria to which new developments used for employment will comply. It does not identify any location, specific type or quantum of development. As such there are there are no linking impact pathways present.. **However, it is recommended that the requirement 'Preserving or enhancing the historic and natural environments' is incorporated back into this policy as a requirement to protect European Sites from light pollution.**
Policy EER3. Eastney Road Retail Area	Planning permission for change of use and adaptation of retail and other premises in the Eastney Road Retail Area will be considered for approval where the proposed uses would complement or enhance and not harm the viability of the area as a retail centre.	No HRA implications.

	Complementary uses could include cafes, restaurants and cultural and recreational uses that are freely open to the general public. Betting shops and takeaways will only be approved where: • there is no loss of retail street frontages within the retail area; • there is no significant adverse impact on amenity; • there are no adverse impacts on highway safety or capacity.	This is a development management policy which outlines the requirements for the change of use of retail premises on Eastney Road and the types of use that would be acceptable. There are no impact pathways present.
Policy EER4. Connectivity	New development must incorporate superfast-speed Internet connectivity.	No HRA implications. This is a development management policy relating to internet connectivity within new development. This is a positive policy as it has potential to reduce the number of journeys by motorised transport required and thus reduce atmospheric pollution. There are no impact pathways present.
Policy PLD1.	New development must be well designed and sustainable. This includes: 1. Comprising creative, site-specific design solutions, based on analysis of the coastal, landscape and townscape setting of Milton; 2. Complementing the established character of Milton in terms of urban form, spacing, enclosure and definition of streets and spaces, and degree of set-back from streets; 3. Designing buildings, streets, spaces, landscaping and planting to create a safe, locally distinctive and well-functioning environment, with a sense of place; 4. Creating attractive, safe and convenient environments for pedestrians, with streets and spaces overlooked by active building frontages, to create natural surveillance; 5. Providing streets that encourage low vehicle speeds and which can function as safe spaces for pedestrians; 6. Providing for a balanced range of transport options, and convenient pedestrian links, including links to surrounding public transport services; 7. Providing a mix of car-parking provision as an integral part of the layout, so that it does not dominate the streets and spaces and complies with the Council's emerging Parking Standards of 0.75 spaces/1 bed unit; 1.25 spaces/2 & 3 bed units and 1.75 spaces/4 bed and above units;	No HRA implications. This is a development management policy relating to the design and sustainability of new development within Milton. This is a positive policy that encourages the use of sustainable technologies and modes of transport such as public transport and pedestrian access in order to reduce environmental impacts of new developments. There are no impact pathways present.

	8. Clearly distinguishing between public and private spaces, thereby avoiding the need to create dead frontages by placing high walls or fences adjacent to streets and spaces; 9. Using high-quality, durable materials, to complement the site and context. 10. Responding to views and landmarks visible from within sites in the design the layout of the development; 11. Including SUDS to prevent rainwater runoff into the sewage system and ensuring hard surfaces are permeable, to reduce rainwater runoff; 12. Adopting the higher standard of water efficiency under the Building Regulations (which relates to 110 litres/head/day including external water use and re-use) in line with best practice and consideration be given to the use of grey-water recycling systems and efficient appliances; 13. Adopt layouts in new developments to incorporate wildlife corridors linking areas of green spaces within the development and where possible to existing green spaces.	
Policy PLD2. Renewable and Low Carbon Energy	Ensure new developments are designed to achieve compliance with the City Council's Zero Carbon Emission Target for 2030 declared on 19 March 2019 to mitigate Climate Change and help increase the use and supply of renewable and low-carbon energy, new developments will be required to fully embrace new renewable technologies and where possible design new roof structures towards a south facing orientation to maximise solar gain. New developments will also be required to embrace new and emerging energy efficiency measures to improve standards in reducing the depletion of finite global resources. Where larger scale developments and re-development proposals come forward during the Plan period, it will be necessary to fully consider opportunities for development-wide renewable energy generation.	No HRA implications. This is a positive policy as it requires development to provide renewable and/or low carbon energy to reduce environmental impacts of new development. There are no impact pathways present.
Policy ENV1. Local Green Space	The Local Green Spaces designated by this neighbourhood plan will remain as green spaces. Small-scale built development may be allowed, providing: • The open and green character of the space is maintained and not compromised; • The facilities support the community use of space. • The community, wildlife, amenity and other values as a Local Green Space are enhanced.	No HRA implications. This is a positive policy as it requires development to provide or contribute to open space provision. However, it does allow for small scale-built development within Local Green Space, which has the potential to reduce the ability of alternative sites to divert recreational activity away from the sensitive Solent European designated sites. However, it does identify that the open and green character of the space is not compromised and that the facilities should support community use of the space. As such it can be concluded that there are no impact pathways present.

Policy ENV2. Protected Sites	New development must not adversely impact on protected sites and demonstrate that it will enhance protected sites and their surroundings. This includes: • Taking full account of the ecological and wildlife values of the area and the need to support nature conservation and biodiversity and provide robust evidence of how it will achieve biodiversity and geodiversity net gains. • Incorporating appropriate habitat management practices to maintain the functional integrity of the designated Solent Wader and Brent Goose Wader Sites.	No HRA implications. This is a positive development management policy relating to the conservation of protected sites and biodiversity within Milton. Development must not have an adverse impact on protected sites. This policy does not identify any location, type or quantum of development. There are no impact pathways present. It does, however, present a core policy for ensuring that development in the Milton area is delivered without an adverse effect by underlining the risk such development poses to designated sites and the legal obligation to examine potential effects. **For robustness it is recommended that this policy specifically identify European designated sites: Chichester and Langstone Harbours SPA/Ramsar, Solent Maritime SAC, Solent and Dorset Coast SPA and Portsmouth Harbour SPA/Ramsar.**
Policy ENV3. New Development Proposals	New development proposals will require applicants to provide a Biodiversity Mitigation and Enhancement Plan (BMEP). BMEPs should include the following measures where appropriate: • Provide opportunities for new tree planting. • All landscape planting to utilise appropriate native species. • Promote enhancements of green spaces, wildlife corridors and woodland spaces. • Creation and long-term management of areas of species eg rich grassland. • Creation of a community orchard (using traditional varieties) and/or the provision of fruit trees within allotment plots or gardens. • Provision of new bat roosting and bird nesting opportunities within new builds located adjacent to green infrastructure, including the provision of nesting opportunities for swifts and other birds. • Provision of additional bat roosting opportunities within established areas of trees. • Retain existing trees and incorporate high quality planting and landscape design in new development; any unavoidable removal of protected trees will require replacement by the same species or suitable alternatives.	No HRA implications. This is a positive environmental policy as it requires development to provide biodiversity mitigation and enhancement to the proposed land for development. As such, it can be concluded that there are no impact pathways present.
Policy MH1. Heritage Assets	Preserving or enhancing the historic and natural environments. Planning applications affecting national and local heritage assets within the Milton Neighbourhood Plan Area should be of the highest standards, taking account of the area's character and appearance. Care should be taken to ensure that new development responds well to the key heritage features within the Plan Area, including the designated and non-designated assets. All development which has the potential to affect heritage assets is to be accompanied by an appropriate heritage assessment and include measures which will mitigate or compensate for the loss of any heritage values identified.	No HRA implications. This is a development management policy and conserves national and local heritage assets and their setting. As such, it can be concluded that there are no impact pathways present.
Policy MH2. Previously Developed Land and Buildings	The neighbourhood plan supports proposals which seek to bring back into active use previously developed land or buildings, subject to compliance with all other Plan policies. In particular, it supports schemes, which incorporate the	No HRA implications. This is a development management policy to enable sustainable development by re-use of previously developed land and/or buildings. This policy does not specifically allocated sites for development. As such, it can be concluded that there are no impact pathways present.

	sympathetic reuse of buildings and are informed by the historic character of these buildings and their context.	
Policy TSP1. Vehicle Capacity and Safety	New development will be expected to demonstrate that vehicle capacity into the Milton area is adequate to accommodate additional vehicle movements generated. Developments resulting in an increase of 30 or more movements through local road junctions in The Plan Area will be considered as having a material impact and will require a full capacity assessment of the junction. All development must demonstrate that it would have no significant detrimental impact on traffic safety, air-quality and congestion of the highway network and provide any highway improvements necessary to accommodate additional traffic generated.	No HRA implications. This is a development management policy which relates to traffic impacts of new development. It does not in-itself provide for increased traffic flows. Developers would be required to model traffic impacts in and around the neighbourhood area to demonstrate that existing infrastructure is adequate. There are no impact pathways present.
Policy TSP2. Balanced Transport Provision	New development must protect, maintain and develop balanced transport provision, including: • giving priority to the needs and convenience of pedestrians and cyclists; • providing secure, weatherproof and convenient facilities for storage of cycles; • facilitating easy pedestrian access to surrounding public transport facilities; • Providing electric charging points for electric vehicles.	No HRA implications. This is a development management policy which relates to the design of new transport provision as part of new development. This is a positive policy that encourages low emissions. There are no impact pathways present.
Policy TSP 3. Improving and Securing Cycling Routes	The existing Furze Lane National Cycle Route 222 will be retained and closed to all except cycles, pedestrians and buses and Improvements will be sought to secure a link across Milton Common to the existing Eastern Road Cycle Path along the widened shoreline as a combined pedestrian/cycling amenity. A North/South Cycle Route will be secured in the redevelopment of St James' Hospital from Edenbridge Road to Locksway Road. The "Permissive" Cycle Path from Ironbridge Lane/Kingsley Road across Bransbury Park to Bransbury Road/Henderson Road will be retained.	No HRA implications. This is policy promotes the use of cycle paths by providing safeguarding to existing cycle routes. This policy does not specifically allocate sites for new development. As such, it can be concluded that there are no impact pathways present.
Policy STJ1. St James' Hospital Site	Land to the east of St James' Hospital is *likely* to allocate 107 residential dwellings and healthcare, education and green space in accordance with the previously adopted (2006) Portsmouth LP policies MT3 and MT4.	HRA implications. This policy allocates a small portion of land at St James' Hospital for development. It is also noted that further land at St James' Hospital will likely be development for residential dwellings and healthcare facilities over the NP period (further detail is to be provided in the new Portsmouth LP). Likely significant effects could arise to several European Sites, these are: • **Chichester And Langstone Harbours SPA/Ramsar** – lies 540m east, impacts from increased development could arise from coastal squeeze, water pollution (effluent and surface runoff), air pollution and recreational pressure. • **Solent Maritime SAC** – lies 540m east, impacts from increased development could arise from coastal squeeze, water pollution (effluent and surface runoff), air pollution and recreational pressure. • **Solent and Dorset Coast SPA** – lies 1.2km south, impacts from increased development could arise from coastal squeeze and water pollution (effluent and surface runoff).

		• **Portsmouth Harbour SPA/Ramsar** – lies 3.5km west, impacts from increased development could arise from water pollution (surface runoff), air pollution and recreational pressure. This policy is screened in for likely significant effects to European Sites in the absence of environmental mitigation.
Policy LAN1. Langstone Campus	The granting of planning permission on Langstone Site A (see plan) will be considered for the following uses, subject to the retention and management of the Core Brent Goose and Solent Wader site P23b as defined in the Solent Waders and Brent Goose Strategy: a. reclaiming the entire site as part of the coastal environment extending Milton Common. b. demolition of parts of the site to create recreational and sports facilities or green open space;.. c. continuing educational and institutional residential use in existing buildings, including the possibility of changing part or the entire built campus site to a local school. d. medical or other community facilities in existing buildings (this could include physiotherapy or sports injury clinic facilities to support the sports uses, or facilities or home-based working). e. Re-use of built areas for solar power electrical generation with ground-based solar PV panels to minimise visual impairment and for ease of maintenance. f. All new development proposals to submit a Project Level HRA to consider the effects of development on the Chichester and Langstone Harbour SPA, Ramsar and SSSI within the Solent Maritime SAC. The granting of planning permission on Langstone Site B (see plan) will be considered for the following uses: a. recreational and sports facilities or green open space, either ancillary to the educational use of the site or as independent facilities. b. reclaiming the entire site as part of the coastal environment. c. other uses that maintain the open character and wildlife value of the site Except, and on condition of the removal of all built development from Site A, Site B may be used for Class C3 residential uses on the area marked YY on the Map XX below limited in area to that not exceeding the existing building footprint area on Site A. Access in these circumstances will be from Locksway Road in the interests of safety to cyclists and pedestrians using NCR 222 along Furze Lane. For both sites Langstone A and B, any new or modified uses would need to be sustainable and appropriate to the coastal environment by: a. avoiding any significant overall intensification of use on the site, especially in terms of vehicular traffic generation; b. enhancing and not adversely impacting on wildlife habitats (including birds), the	HRA implications. This is a development management policy that provides a development brief for the Langstone Campus site and environmental criteria. Specifically, this policy does not provide quantum of development, rather this policy provides strict policy requirements for future planning proposals. The site is discussed in Portsmouth City Councils Issues and Options Document (2017) for strategic housing allocation and to possibly be brought forward in the updated Portsmouth LP. Based upon this policy, it is the preferred option of the Parish Council to reclaim/restore the entire site as part of the coastal environment (i.e. of benefit to coastal SPA and Ramsar sites). Nevertheless, even if the land was converted back to suitable wildlife habitat there are still potential likely significant effects that could arise. This site is identified by the Solent and Waders and Brent Goose Strategy as a core habitat area for over wintering Brent goose. These birds have been observed to forage at the playing grounds of the campus over winter. Therefore, impacts due to proximity could occur during demolition, construction, and operational activities (depending on the development). Likely significant effects could arise to several European Sites, these are: • **Chichester and Langstone Harbours SPA/Ramsar** – directly adjacent east, impacts from increased development could arise from coastal squeeze, loss of functionally linked habitat, water pollution (surface water runoff), air pollution and recreational pressure. • **Solent Maritime SAC** – directly adjacent east, impacts from increased development could arise from coastal squeeze, water pollution (surface water runoff), air pollution and recreational pressure. • **Solent and Dorset Coast SPA** – lies 1km south, impacts from increased development could arise from coastal squeeze and water pollution (surface water runoff). • **Portsmouth Harbour SPA/Ramsar** – lies 4km west, impacts from increased development could arise from air pollution and recreational pressure. The policy does outline a number of requirements to protect European sites, but in accordance with case law these cannot be taken into account at the screening stage and are discussed further in the appropriate assessment.

	Local Nature Reserve or the Special Protection Area	
Policy LAN2.	The National Cycle route 222 along Furze Lane shall be retained as a dual Cycle/Bus Lane in the interests of Sustainable Transport and to encourage Active Travel.	No HRA implications. This policy aims to safeguard the current cycle and bus lane located at Furze Lane. This policy does not specifically allocate new development. As such, it can be concluded that there are no impact pathways present.

Figure 3: Milton Neighbourhood Plan in relation to European Sites.

5.1 In combination

As has been previously described impact pathways to European Sites can occur alone and in combination of a respective plan or project. In this case the only impacts expected are those which arise in combination with growth elsewhere in Portsmouth and further afield. Those plans that are expected to act in combination with the Milton NP are:

- Havant Borough Local Plan (Core Strategy) adopted March 2011
- Havant Borough Local Plan (Allocations) adopted July 2014
- Fareham Borough Local Plan Part 1: Core Strategy adopted 2011
- Gosport Borough Local Plan 2011-2029
- Chichester Local Plan 2014-2029

6. Appropriate Assessment

The law does not prescribe how an appropriate assessment should be undertaken or presented but the appropriate assessment must consider all impact pathways that have been screened in, whether they are due to policies alone or to impact pathways that arise in combination with other projects and plans. That analysis is the purpose of this section. The law does not require the 'alone' and 'in combination' effects to be examined separately provided all effects are discussed.

The Portsmouth LP (2012) states that '*at this point it is not certain that this rate, scale and distribution of housing will not have an adverse effect on European designated nature conservation sites because of rising pressure from recreation and increasing deposition of pollutants as a result of the traffic growth associated with new development'*. In addition, '*the established residential neighbourhoods of Milton… are expected to see a limited amount of housing and retail development up to 2027 to contribute to future needs and support existing local centres'*.

The most recent LP consultation document (2019) describes that between 2016-2036 there is a housing demand of up to 17,800 net dwellings; however, there is only capacity for 14,500 dwellings in Portsmouth. For economic land, the Council identifies a capacity for schemes to deliver some 74,211 square metres of office floorspace and 82,749 square metres of floorspace for mixed business uses over the period 2016-2036. However, the targets for employment land are currently under review.

The HRA screening exercise undertaken in Chapter 5, Table 3 indicated Policy EER1. Warren Avenue and Mallard Road Industrial Estate, Policy STJ1. St James' Hospital Site (allocates 107 dwellings) and Policy LAN1. Langstone Campus to have HRA implications. Therefore, further assessment of coastal squeeze, water pollution, recreational pressure and air pollution were required. These are discussed below.
However, as a general recommendation, it is noted that the text for both Site A and Site B under policy LAN1 contain HRA requirements. However, we would recommend that the text is similar for both sites; in particular for Site A the HRA criterion just requires an assessment whereas for Site B the text goes further and also requires no adverse effect on the SPA. The criterion for Site B should match that requirement.

6.1 Coastal squeeze

Loss of coastal and estuarine habitats is an issue where greenfield sites are developed but could also be an issue where intensification of existing residential areas (i.e. through brownfield development) might be an argument for maintaining or strengthening existing defences ('hold the line' or 'advance the line'). Previous HRAs that have established the impacts of habitat loss as a result of flood defence and land take for development (i.e. provided by Portsmouth and neighbouring LPAs) indicates a loss of 18.2ha to Chichester and Langstone Harbours SPA/Ramsar, 1ha to Solent Maritime SAC and 29.2ha to Portsmouth Harbour SPA/Ramsar[40].

Current sea defence at the eastern and southern boundaries of Milton consistent of sea wall, rock, embankment, managed beach and unmanaged beach. In addition, the whole coastal boundaries of Milton are designated to 'hold the line'. Considering the impacts of coastal squeeze, the LP HRA (2011) concluded that impacts to site integrity

[40] Halcrow (2008): *Portsea Island Coastal Defence Strategy Plan: Appropriate Assessment*. Handforth: Cheshire.

of Chichester and Langstone Harbours SPA/Ramsar, 1ha to Solent Maritime SAC and 29.2ha to Portsmouth Harbour SPA/Ramsar as a result of LP would occur.

However, with regards to Policy LAN1. Langstone Campus the parish have declared in supporting text that the preferred option for this site is to restore the land back to common land and to reflect those habitats supported by Milton Common Local Nature Reserve (LNR). The decision to hold the line has been made at the strategic level for the North Solent Shoreline Management Plan and the relevant Coastal Strategy and is not within the control of the Neighbourhood Plan Group. The preferred option of reclaiming the Langstone Campus site as part of the natural environment will not require a higher standard of protection that has been assumed strategically and Policy LAN1 makes it clear that support for proposals on this site is contingent on completion of a project-level HRA. Therefore, the Neighbourhood Plan will not cause any adverse effect on the integrity of European sites due to coastal squeeze.

6.2 Loss of functionally linked habitat

The Test of LSEs section screened in Policy LAN1. Langstone Campus for the loss of functionally linked land. This was in relation to supporting habitat of over wintering brent goose (*Branta bernicla bernicla*) that are designated as a primary feature of Chichester and Langstone Harbours SPA/Ramsar.

The Solent Waders and Brent Goose Strategy classifies the playing fields of Langstone Campus Site A (refer to Figure 3) as a core area for over wintering brent goose (for context, part of Milton Common is a LNR[41]). In addition, Site B is classified as a secondary support area for brent goose. The ultimate aim of this strategy is to '*protect the network of non-designated terrestrial wader and brent goose sites that support the Solent Special Protection Areas (SPA) from land take and recreational pressure associated with new development'*.

Policy LAN1. Langstone Campus, Site A aims to either, in order of preference:

a. reclaiming the entire site as part of the coastal environment extending Milton Common,

b. demolition of parts of the site to create recreational and sports facilities or green open space,

c. continuing educational and institutional residential use in existing buildings, including the possibility of changing part or the entire built campus site to a local school,

d. medical or other community facilities in existing buildings, or

e. Re-use of built areas for solar power electrical generation with ground-based solar PV panels.

Policy LAN1. Langstone Campus, Site B aims to either, in order of preference:

a. recreational and sports facilities or green open space, either ancillary to the educational use of the site or as independent facilities.

b. reclaiming the entire site as part of the coastal environment.

c. other uses that maintain the open character and wildlife value of the site.

While these policy options do consider the limitations of development that is sympathetic to the brent goose strategy there are potential impacts of supporting SPA/Ramsar features that could lead to site integrity impacts. These are discussed further in Table 5 and Table 6. As before, green shading indicates no impact to European Sites integrity if the recommendations of this report are undertaken, orange shading indicates that there is potential for impacts to European Sites and red shading indicates impact to European Site integrity.

[41] Portsmouth City Council (2015). *Milton Common Local Nature Reserve: Restoration and management plan*. Available online: https://www.portsmouth.gov.uk/ext/documents-external/pln-miltoncommon-lnr-framework.pdf, accessed 05/04/2020.

Table 5. Assessment and recommendations for Policy LAN1. Longstone Campus, Site A.

Policy option	Short-term impacts	Long-term impacts	Discussion and recommendations
a	The conversion of the existing buildings/ playing fields to common land/ better quality habitat for waders and brent goose would likely increase human presence during construction and could lead to temporary noise, light and visual bird disturbance. In turn, this could displace protected bird species away from core areas or in worst case SPA/Ramsar sites.	In the long-term this option will lead to environmental and SPA/Ramsar benefits as the site will support higher quality habitats, similar to Milton Common, that will be better able to support over wintering brent goose.	Considering that Site A is a core area for over wintering brent goose, it is considered that the conversion of land to wildlife habitat would be of great benefit to the species, and by default Chichester and Langstone Harbours SPA/Ramsar sites. In order to avoid disturbance issues, **it is recommended that the conversation of land at Site A and associated decommissioning, demolition and construction works are undertaken outside of the over wintering period for brent goose. This would avoid brent goose disturbance and SPA/Ramsar displacement issues.**
b	Again, the conversion of the existing buildings to playing fields would likely increase human presence during construction and could lead to noise, light and visual bird disturbance. In turn, this could displace protected bird species away from core areas or in worst case SPA/Ramsar sites.	In the long-term this option is considered to also be of benefit to brent goose, as this species has been observed to use the playing fields and Langstone campus for over wintering foraging and resting habitat.	**It is considered that land use option a for Site A is the preferred option.** However, if option b is taken forward in the future, **it is recommended that the conversation of land at Site A and associated decommissioning, demolition and construction works are undertaken outside of the over wintering period for brent goose. This would avoid brent goose disturbance and SPA/Ramsar displacement issues.**
c	The conversion of the existing buildings to education facilities and residential uses would likely increase human presence during construction and subsequently and could lead to noise, light and visual bird disturbance. In turn, this could displace protected bird species away from core areas or in worst case SPA/Ramsar sites.	In the long-term this option could lead to increased usage of the current playing fields by humans and lead to long-term bird disturbance issues. Increased disturbance at this site could lead to the permanent displacement of protected bird species.	The long-term displacement of bird species could impact the site integrity of Chichester and Langstone Harbours SPA/Ramsar sites as they become unable to support bird features. **It is recommended that option c is not considered for development at Site A. In line with the Solent Waders and Brent Goose Strategy, if this becomes the only viable option for site A; mitigation and land off-setting would be required in collaboration with Natural England and LPA.**
d	Again, the conversion of the existing buildings to medical/ community facilities would likely increase human presence during construction and could lead to noise, light and visual bird disturbance. In turn, this could displace protected bird species away from core areas or in worst case SPA/Ramsar sites.	Again, in the long-term this option could lead to increased usage of the current playing fields by humans and lead to long-term bird disturbance issues. Increased disturbance at this site could lead to the permanent displacement of protected bird species.	The long-term displacement of bird species could impact the site integrity of Chichester and Langstone Harbours SPA/Ramsar sites as they become unable to support bird features. **It is recommended that option d is not considered for development at Site A. In line with the Solent Waders and Brent Goose Strategy, if this becomes the only viable option for site A; mitigation and land off-setting would be required in collaboration with Natural England and LPA.**
e	The conversion of the existing buildings solar power would likely increase human presence during construction and could lead to noise, light	In the long-term this option would be of environmental benefit due to the use of renewable energy to tackle issues of climate change.	While it is considered that land use option a for Site A is the preferred option, this option would also be of benefit to Chichester and Langstone Harbours SPA/Ramsar sites as the production of renewable energy will tackle issues of climate change, also a current threat

	and visual bird disturbance. In turn, this could displace protected bird species away from core areas or in worst case SPA/Ramsar sites.		and pressure to SPA/Ramsar Sites. In order to avoid disturbance issues, **it is recommended that the conversation of existing buildings at Site A and associated decommissioning, demolition and construction works are undertaken outside of the over wintering period for brent goose. This would avoid brent goose disturbance and SPA/Ramsar displacement issues.**

Table 6. Assessment and recommendations for Policy LAN1. Longstone Campus, Site B.

Policy option	Short-term impacts	Long-term impacts	Discussion and recommendations
a	The extension of the existing buildings and playing fields to education facilities and residential uses would likely increase human presence during construction and subsequently and could lead to noise, light and visual bird disturbance. In turn, this could displace protected bird species away from core areas or in worst case SPA/Ramsar sites.	In the long-term this option could lead to increased usage of the current playing fields by humans and lead to long-term bird disturbance issues. Increased disturbance at this site could lead to the permanent displacement of protected bird species.	The long-term displacement of bird species could impact the site integrity of Chichester and Langstone Harbours SPA/Ramsar sites as they become unable to support bird features. **It is recommended that any development in line with option a does not extend past the current development footprint of existing land use. In line with the Solent Waders and Brent Goose Strategy, if this becomes the only viable option for site B and the conservation of playing fields is required mitigation and land off-setting would be required in collaboration with Natural England and LPA.**
b	The conversion of the existing buildings/ playing fields to common land/ better quality habitat for waders and brent goose would likely increase human presence during construction and could lead to noise, light and visual bird disturbance during that period. In turn, this could displace protected bird species away from core areas or in worst case SPA/Ramsar sites.	In the long-term this option will lead to environmental and SPA/Ramsar benefits as the site will support higher quality habitats, similar to Milton Common, that will be better able to support over wintering brent goose.	Considering that Site B is a secondary support area for over wintering brent goose, it is considered that the conversion of land to wildlife habitat would be of great benefit to the species, and by default Chichester and Langstone Harbours SPA/Ramsar sites. In order to avoid disturbance issues, **it is recommended that the conversation of land at Site B and associated decommissioning, demolition and construction works are undertaken outside of the over wintering period for brent goose. This would avoid brent goose disturbance and SPA/Ramsar displacement issues.**
c	The conversion of the existing buildings/ playing fields to common land/ better quality habitat for waders and brent goose would likely increase human presence during construction and could lead to noise, light and visual bird disturbance during that period. In turn, this could displace protected bird species away from core areas or in worst case SPA/Ramsar sites.	In the long-term this option will lead to environmental and SPA/Ramsar benefits as the site will support higher quality habitats, similar to Milton Common, that will be better able to support over wintering brent goose.	Considering that Site B is a secondary support area for over wintering brent goose, it is considered that the conversion of land to wildlife habitat would be of great benefit to the species, and by default Chichester and Langstone Harbours SPA/Ramsar sites. In order to avoid disturbance issues, **it is recommended that the conversation of land at Site B and associated decommissioning, demolition and construction works are undertaken outside of the over wintering period for brent goose. This would avoid brent goose disturbance and SPA/Ramsar displacement issues.**

6.2.1 Discussion

It is clear from the Milton NP that the Parish Council are committed to the protection of sites identified in the Solent Waders and Brent Goose Strategy:

- *'In an ideal scenario, all of the built Langstone Campus site would be restored to an open coastal landscape consistent with the Coastal Policy objectives and development rights would be transferred to the existing sports-fields on a like for like basis with no net increase in the built footprint.'*
- *DDark-bellied Brent Geese, flying from the Arctic Circle and Siberia in the winter months heavily use the playing fields. They migrate in family groups and stay together to breed and they've always been a significant part of the character of Milton's coastline. Artificial sports pitches have already compromised the site's wildlife value on Site B. This is now classified as Site P25; a Secondary Support Area for the Core Area of the field adjacent Langstone Harbour in Site A (Site P23b) in the May 2019 Interim Project Report of the Solent Waders and Brent Goose Strategy (SW & BGS). Their immediate proximity of the adjoining Harbour's mudflats are fundamental to the importance of these SW&BG sites because of rising sea levels and "Coastal Squeeze" reducing inter-tidal feeding opportunities.'*
- *'Any redevelopment of the campus site A would need to take full account of this habitat especially as the SW & BGS describes them as irreplaceable for the continued preservation of the habitat's ecological network. Long-term maintenance is an issue for any development, including consideration of RSPB standards for migrating bird habitat.'*

Moreover, Policy ENV3 contains the following requirements for development proposals:

- '*Taking full account of the ecological and wildlife values of the area and the need to support nature conservation and biodiversity and provide robust evidence of how it will achieve biodiversity and geodiversity net gains.*
- *Incorporating appropriate habitat management practices to maintain the functional integrity of the designated Solent Wader and Brent Goose Wader Sites*.'

While Policy LAN1. Langstone Campus also has the following policy requirements:

- *'subject to the retention and management of the Core Brent Goose and Solent Wader site P23b as defined in the Solent Waders and Brent Goose Strategy'*
- *'f. All new development proposals to submit a Project Level HRA to consider the effects of development on the Chichester and Langstone Harbour SPA, Ramsar and SSSI within the Solent Maritime SAC.'*

In addition, the overarching policies of the adopted Portsmouth LP (2012) apply to all development within Milton:

- '…*to help reduce pressure on these sensitive sites, the city council worked with neighbouring authorities and PUSH to develop the PUSH Green Infrastructure Strategy*[42]*. The strategy is now being taken forward and developed into the PUSH Green Infrastructure Implementation Plan, which will provide a strategic approach to protecting European sites from recreational pressure and development, making other biodiversity improvements as well as improving health levels*.'
- Policy PCS24 tall buildings: '*Where proposals fall within 500m of Portsmouth Harbour SPA/Ramsar or Chichester and Langstone Harbours SPA/Ramsar sites, specific measures shall be taken to ensure there is no adverse effect on ecological integrity*.'

Currently, the specific development option for land allocation at Site A and B of the Langstone Campus is undecided. In order to protected functionally linked land to European Sites it is recommended that for Site A, option a (the Neighbourhood Plan preference) is taken forward and for Site b, option b is taken forward for development. This would benefit the Solent European Sites that are currently under pressure from land and marine development.

While the requirement (f) of policy LANG1 requires a project specific HRA of any development proposals brought forward for Site A, **it is recommended that the following edits are made to requirement (f): '*All new development proposals to submit a Project Level HRA to consider the effects of development on the European Sites. Permission will not be granted for those that would lead to adverse effects to the integrity of European Sites*.' It is also recommended that this is a requirement for both site A and B of Policy LAND1.** It is considered that with these changes, an assessment undertaken for a planning application would enable the

[42] PUSH (2019). South Hampshire Green Infrastructure Implementation Plan

impacts of development to be assessed to their fullest extent and enable provision of tailored environmental and European Site mitigation.

6.3 Water quality: surface water runoff

Portsmouth is at risk of flooding from a variety of source. Flooding from the sea is the most threatening cause to Portsmouth, the southern and eastern extremities of Milton are classified by the Environment Agency to be within Flood Zone 3 (i.e. areas could be flooded from the sea that has a 0.5 per cent (1 in 200) or greater chance of happening each year). As flood levels recede/ the tide retreats there is a risk the flood water could become contaminated with pollution from developed areas (i.e. chemical pollution from vehicle leakages or sediment particles) as this water flows back into the sea coastal European Sites (i.e. Chichester and Langstone Harbours SPA/Ramsar, Solent Maritime SAC, Solent and Dorset Coast SPA and Portsmouth Harbour SPA/Ramsar) water pollution could seriously impact site integrity.

Surface water runoff from rainfall is also a cause of flooding within Milton. The risk and frequency of surface water flooding can increase when hard, impermeable surfaces are constructed on greenfield land[43]. In the event of inappropriate or inadequate drainage design, contaminated water (i.e. toxic chemicals dissolved into flood water) could leach to nearby European Sites (i.e. Chichester and Langstone Harbours SPA/Ramsar and Solent Maritime SAC are located directly east, adjacent Milton Parish and the Solent and Dorset Coast SPA is located 500m south).

Preventing surface water runoff within the parish can be mitigated using high quality drainage design that prevents surface water entering environmentally sensitive areas. Currently, the Portsmouth LP provide overarching policies that afford safeguarding measures to such areas through drainage design and mitigation:

- Policy PCS12 flood risk: '*Permitting new developments only where the necessary surface water drainage, foul drainage and sewage treatment capacity is available, or where additional capacity will be provided in time to serve any individual phase of the development without unacceptably reducing the level of service to existing users, or causing harm to the environment; and Requiring surface water to be separated within the site and the post development rate of discharge of both surface and foul water to the combined system should be no greater than the existing rate*.'
- Supporting text 4.40: '*In order to promote efficient use of the foul sewerage system, and release capacity for foul water conveyance, surface water should be separated within the site and the post-development rate of discharge of both surface and foul water to the combined system should be no greater than the existing rate. Sustainable drainage systems (SuDS) should be provided wherever practical to help achieve this. The use of SuDS, filter drains and storage at source will assist in achieving efficient drainage, reducing water run-off and encouraging the infiltration of water back into local aquifers*.'

Given the mitigation policy and supporting text that are already in place by Portsmouth LP, water pollution requirements are in place for development to provide sustainable drainage design that prevents surface water runoff to environmentally sensitive areas. However, the Milton NP does not mention the risk of water pollution to surrounding European Sites and the risk this could pose to protected habitats and species. Therefore, to ensure European Site protection **it is recommended that reference to water quality protection of the Chichester and Langstone Harbours SPA/Ramsar, Solent Maritime SAC, Solent and Dorset Coast SPA and Portsmouth Harbour SPA/Ramsar is included as a separate policy or within Policy ENV2. Protected Sites and/or Policy ENV3. New Development Proposals.**

6.4 Water quality: treatment of effluent

The Test of LSEs section screened in Policy STJ1. St James' Hospital Site due to LSE arising from treatment of effluent from residential development at this site and potential Policy LAN1. Langstone Campus. At sewage treatment works, additional residential development increases the risk of effluent escape into aquatic environments in addition to consented discharges to the catchment. In many urban areas, sewage treatment and surface water drainage systems are combined, and therefore a predicted increase in flood and storm events could increase pollution risk.

The most likely problem arising from the Milton NP is the discharge of treated sewage effluent, that could increase the input of phosphorus and nitrogen into the Chichester and Landstone Harbours SPA/Ramsar, the Solent

[43] GOV (2016). *Flood risk and coastal change.* Available online: https://www.gov.uk/guidance/flood-risk-and-coastal-change [Accessed: 15/01/20]

Maritime SAC and the Solent and Dorset Coast SPA. Water quality is listed as a threat to the site integrity of these European sites in the respective Natural England Site Improvement Plans.

For example, several of the Solent Maritime SAC habitats including estuaries, mudflats, sandflats and sandbanks are current listed as unfavourable water quality as a result from high water nutrient inputs. Nutrient excess has led to macroalgae growth in the SAC that has resulted in saltmarsh and seagrass loss, impacted invertebrates communities and indirectly birds at higher trophic levels[44]. Macroalgae blooms can radically alter estuarine/marine ecosystems thereby reducing the ability to a European Site to support designated features[45].

Water quality from treatment of sewage are typically tackled at the Local Plan level with the involvement of water companies, Natural England and the Environment Agency. These organisations operate on a strategic scale and wastewater is treated at sewage works serving multiple parishes. Therefore, issues of water quality at Milton are inherently in-combination with neighbouring parishes. The wastewater treatment works (WwTW) serving Portsmouth (i.e. including Milton) is Budds Farm WwTW[46] that discharges into the English Channel (i.e. the Solent and Dorset Coast SPA).

Based upon the most recent advice provided by Natural England[47], Milton is located within the treated wastewater catchment that affects the Solent European sites within which nutrient neutrality (i.e. ensuring that development not add to existing nutrient burdens) must be achieved. Currently, the exact housing allocation located at St James's Hospital has yet to be settled and it is clear that this will be done through the new Local Plan, not the Milton Neighbourhood Plan. Therefore, nutrient neutrality calculations have not been completed for this HRA. However, once further details with regards to the allocation of Policy STJ1. St James' Hospital Site for 107 dwellings (either more or less) **nutrient neutrality calculations and appropriate assessment and mitigation will need to be completed for any allocation in the Portsmouth Local Plan and updated for any planning application. In order to clarify that the support of the Neighbourhood Plan group is contingent on this work being completed, it is recommended that that Policy STJ1 has the following policy requirement '*Development proposals must undertake nutrient neutrality calculations for development that would result in increased sewage production and demonstrate that there is current headroom at receiving wastewater treatment works in line with Natural England's Advice on achieving Nutrient Neutrality for new development in the Solent Region*'.**

6.5 Recreational pressure

Portsmouth is extremely developed with high housing densities and large numbers of residents belonging the Milton parish and in-combination the city. Policy STJ1. St James' Hospital Site and Policy LAN1. Langstone Campus potentially allocate residential development within Milton that could lead to an increase in visitor numbers to European Sites in combination with surrounding residents of Portsmouth. It is long standing knowledge that Chichester and Langstone Harbours SPA, Solent and Dorset Coast SPA and Portsmouth Harbour SPA experience high levels of recreational pressure due to the high density of housing around Portsmouth an the strong recreational pull of coastal sites. These SPA are designated for the diverse bird assemblages that roost at these sites overwinter. The Solent Forum undertook a project to examine bird disturbance and possible mitigation in the Solent area. A Phase 1 report has outlined the existing visitor data for the Solent, canvassed expert opinion on recreational impacts on birds and assessed current available data on relevant species. Phase II of the Solent Disturbance and Mitigation Project identified that survival rates for curlew and a variety of other bird species were predicted to decrease under an increase in visitor rates. Disturbance issues differ in magnitude, frequency, predictability, spatial distribution and duration. Examples of anthropogenic activities that could disturb birds as a result of NP development include:

- Human activity,
- Boat and vehicle movements, and
- Light pollution.

[44] Natural England (2018). Solent Maritime SAC Condition Assessment and improving water quality in the Solent. Available online: http://www.solentems.org.uk/resources/pdf/Solent%20Maritime%20SAC%20Condition%20Assessment%20and%20water%20quality%20200918.pdf, accessed 2304/2002

[45] Valiela, I., McClelland, J., Hauxwell, J., Behr, P.J., Hersh, D. and Foreman, K., 1997. Macroalgal blooms in shallow estuaries: controls and ecophysiological and ecosystem consequences. *Limnology and oceanography*, *42*(5part2), pp.1105-1118.

[46] Southern Water (2011). *Management of wastewater in Portsmouth and Havant.* Available online: https://www.southernwater.co.uk/Media/Default/images/3060_PortsmouthHavant_WWT_v4.pdf, accessed 07/04/2020.

[47] Natural England (2020). Advice on achieving Nutrient Neutrality for new development in the Solent Region. Available online: https://www.push.gov.uk/wp-content/uploads/2020/03/Achieving-nutrient-neutrality-for-new-development-in-the-Solent-region-Marrch-2020.pdf, accessed: 07/04/2020

Impacts from disturbance include:

- The changes in the local distribution of the population (displacement), and
- The indirect impact these may have to food supply, foraging efficiency and compensation for increased energy expenditure due to flight[48].

In addition, species may react to disturbance in different ways this may be due to age, season, weather and previous exposure. Disturbance to bird species may result in:

- Reduced foraging,
- Increased energy expenditure,
- Reducing breeding success,
- Effects to population density,
- Effects to community structure, and
- Effects to distribution and habitat use.

The impacts of disturbance generated from anthropogenic activities within and around estuaries have been identified as a potential issue for waterfowl for several years. The impacts listed above tend to operate within a zone of influence in addition to wider implications through in-direct effects. The extent of the zone of influence will depend largely on the type of activity, existing bird habituation levels, scale of stimuli and abiotic factors. Goss-Custard (2002)[49] suggests that the supporting ability of a designated site for migrating bird species could reduce due as bird species may be unable to utilise the sites resources thereby resulting in local decreases in abundances.

The Solent Recreation Mitigation Strategy[50] aims to address the strategic issue of increased recreational pressure to SPA sites (i.e. Chichester and Langstone Harbours SPA and Portsmouth Harbour SPA) along the Solent Coast by implementing measures including a coastal ranger team, increased education, responsible dog walking initiatives, codes of conduct for coastal activities, site-specific visitor management and habitat protection projects and the provision of alternative greenspaces. These measures are to be coordinated by a partnership manager, and their delivery will be funded by financial contributions from developments within 5.6km of the Solent European sites. At the time of writing (April 2020), this contribution is currently equivalent to an average of £651 per dwelling and is subject to annual change[51] [52]. In addition to this strategy, the PUSH Green Infrastructure Implementation Plan for South Hampshire Green Infrastructure Strategy 2017-2034 and will support the enhancement of the area's green infrastructure (GI) network, enabling growth and development across the sub-region and enhancement of the area's natural environment through the delivery of a number of key strategic GI projects/initiatives. The Plan also sets the framework for more locally based GI planned and delivered at the district and community levels.

It is recommended that the following policy wording is included within Policy ENV2 and/or Policy ENV3: '*development proposals should ensure recreational opportunities do not result in adverse effects of integrity to European designated wildlife sites.'* In addition, reference should be made to the Solent Recreation Mitigation Strategy and the PUSH Green Infrastructure Implementation Plan to the supporting text of the appropriate NP environmental policies.

It is noted that page 33 second to last paragraph of the NP states that: 'The coastal area to the east of the site is a Special Protection Area (with RAMSAR status and a SSSI), to which the Habitat Regulations apply. Portsmouth has prepared a Supplementary Planning Document on the SPAs and the Solent Recreation Mitigation Partnership (SMRP) Strategy 2017 further explains how recreational harm to habitats might be reduced. However, the payments required by the SRMP can no longer be treated as a mitigating measure to prevent Likely significant Effects on the Chichester & Langstone Harbour SPA following the European Court ruling in April 2018 in the Case C323/17.' We believe the last sentence risks giving a mistaken

[48] Riddington, R., Hassall, M., Lane, S.J., Turner, P.A., (1996). The impact of disturbance on the behaviour and energy budgets of Brent geese *Branata b. bericla. Bird study, 43,* pp. 269-279.
[49] Goss-Custard, J.D., Stillman, R.A., West, A.D., Caldow, R.W.G. and McGrorty, S., 2002. Carrying capacity in overwintering migratory birds. Biological Conservation, 105(1), pp.27-41.
[50] Stillman, R. A., West, A. D., Clarke, R. T. & Liley, D. (2012) Solent Disturbance and Mitigation Project Phase II: Predicting the impact of human disturbance on overwintering birds in the Solent. Report to the Solent Forum.
[51] Bird Aware (2017). *Solent Recreational Mitigation Strategy*. Available online: http://www.birdaware.org/CHttpHandler.ashx?id=29372&p=0, accessed: 14/04/20
[52] Portsmouth City Council (2020). *Solent Special Protection Areas.* Available online: https://www.portsmouth.gov.uk/ext/development-and-planning/planning-policy/solent-special-protection-areas, accessed: 07/04/2020.

impression of the outcome of Case C323/17 and therefore recommend the addition of the following wording to the end of the final sentence for clarity: '*…and must instead be taken into account at the appropriate assessment stage of HRA'.*

6.6 Atmospheric pollution

Air quality impacts of development plans are most appropriately tackled at the Local Plan level (i.e. in-combination). In total, Policies EER1. Warren Avenue and Mallard Road Industrial Estate, STJ1. St James' Hospital Site and potentially LAN1. Langstone Campus were all screened in for likely significant effects as a result of air pollution impacts to Chichester and Langstone Harbours SPA/Ramsar, Solent Maritime SAC, Solent and Dorset Coast SPA and Portsmouth Harbour SPA/Ramsar. Impacts of air quality to European Sites within Portsmouth City were assessed in-combination with surrounding districts by PUSH. A summary of these findings were[53]:

- '*The modelling work shows an improvement in air quality in all of the future year scenarios compared to the 2014 reference case. This reflects the improvement in vehicle efficiency that will take place over the coming years as the vehicle fleet moves towards more efficient engines and alternative fuels'.*
- *'However, whilst there is an improvement, there is not an elimination of air quality issues. In 2034, there will still be emissions from vehicles, albeit far less. As well as emissions, particulates are generated from tyre and brake wear which would not be affected by improvements in engine efficiency or the use of alternative fuels'.*
- *'In terms of ecological impact, the study sets out those European Sites where it is likely that in 2034, one or more pollutants would exceed the screening thresholds for air quality impact. This narrows down the sites that need examination and the pollutants that would cause it. Through the modelling work, it also gives local authorities a clear understanding of the scale and distribution of impact that needs to be examined through the Habitats Regulations Assessment (HRA) process'.*

Considering the bullet points above there is a risk that residential development would increase the number of vehicles belonging to Milton and lead to increase air pollution. Furthermore, due to the density of housing at Portsea Island[54] issue of air quality are better assessed in-combination with neighbouring Parishes of Portsmouth. The LP HRA modelled air quality and vehicle traffic within the whole of Portsmouth until 2026. At the time of writing an update to the Portsmouth LP is in progress. Therefore, the findings of the 2011 LP HRA are summaries below:

- '*The modelling carried out by AEAT (2010) demonstrates that pollution levels at some European sites in South Hampshire (notably around Langstone and Portsmouth Harbours, and the Lower Test Valley) are likely to increase between 2006 and 2026.'*
- *'The transport study carried out by PBA (2009) demonstrates that there will be substantial increases in Portsmouth-origin traffic within 200m of Portsmouth Harbour SPA/Ramsar, and this is further supported by the Western Corridor Transport Study prepared for the City Council.'*
- *'There is a significant reduction in congestion as a result of the mitigation measures described in the Western Corridor Transport Study compared to the 'do nothing' approach.'*
- *'…it is considered unlikely that the Core Strategy will lead to adverse effects on the ecological integrity of River Itchen SAC, Solent Maritime SAC, Chichester and Langstone Harbours SPA/Ramsar, or Solent and Southampton Water SPA/Ramsar. This position was generally supported by stakeholders at meetings held in June 2009 and 2010.'*
- *'…it appears that adverse effects are possible at Portsmouth Harbour SPA/Ramsar. Avoidance and/or mitigation measures are required to remove or reduce the effects.'*

Development that provides residential, employment or mixed-use units can mitigate air pollution through:

- Reducing the need to travel,
- Improved public transportation links, and
- Improved walking and cycling links.

It is considered that the current NP does incorporate these mitigation options as the following policies:

[53] PUSH (2018). Report to the Partnership for Urban South Hampshire Overview and Scrutiny Committee. Available online: https://www.push.gov.uk/wp-content/uploads/2018/12/72Air-Quality-Impact-Assessment.pdf, accessed 07/04/2020.
[54] Portsmouth City Council (2019). *2019 Air Quality Annual Status Report (ASR*). Guildhall Square: Portsmouth.

- Policy HSG3: '*All new development proposals to submit a Project Level HRA to consider the effects of development on the Chichester and Langstone Harbour SPA, Ramsar and SSSI within the Solent Maritime SAC*.'
- Policy TSP1: '*All development must demonstrate that it would have no significant detrimental impact on traffic safety, air-quality and congestion of the highway network and provide any highway improvements necessary to accommodate additional traffic generated*.'
- Policy TSP2: '*New development must protect, maintain and develop balanced transport provision, including: giving priority to the needs and convenience of pedestrians and cyclists, providing secure, weatherproof and convenient facilities for storage of cycles, facilitating easy pedestrian access to surrounding public transport facilities, providing electric charging points for electric vehicles.'*
- Policy TSP3: '*The existing Furze Lane National Cycle Route 222 will be retained and closed to all except cycles, pedestrians and buses and Improvements will be sought to secure a link across Milton Common to the existing Eastern Road Cycle Path along the widened shoreline as a combined pedestrian/cycling amenity. A North/South Cycle Route will be secured in the redevelopment of St James' Hospital from Edenbridge Road to Locksway Road. The "Permissive" Cycle Path from Ironbridge Lane/Kingsley Road across Bransbury Park to Bransbury Road/Henderson Road will be retained*.'

Most significantly, the Neighbourhood Plan does not make any allocations and does not specify a quantum or type of development. These decisions are to be made at the Local Plan and planning application scale; the purpose of the Neighbourhood Plan is to make clear what types of development will receive the support of the Milton community. As already identified, air pollution is most appropriately assessed in-combination at LP level. Therefore, the conclusions of the LP HRA apply to Milton Parish. That assessment provided recommendations for the inclusion of air policy wording that was successfully adopted by Portsmouth City Council in the LP. In addition, the Milton NP also reflects this in NP policy and requires all development proposal to produce a project specific HRA. A project specific HRA would be produced at a time when development proposals are more certain and therefore, a greater level of assessment to European Sites can be completed at this stage. As such, it can be concluded that the Milton NP will not result in an adverse effect on the integrity of European sites through air quality issues.

7. Conclusion

For those policies brought forward for appropriate assessment the appropriate safeguarding policy wording should be added. With those recommendations incorporated into the Milton Neighbourhood Plan it is concluded that no adverse effect would occur on the integrity of European Sites from loss of functionally linked habitat, water quality, recreational pressure and air pollution. However, in line with the LP HRA, impacts from coastal squeeze remained screened in for likely significant effects. Impacts from coastal squeeze have to potential to be mitigated by habitat offsetting at Site A, Langstone Campus. Furthermore, impacts from coastal squeeze, as a result from development in Milton, should be further assessed during a project specific HRA where development proposals have further details for appropriate assessment.

aecom.com