Swanage Neighbourhood Plan

Habitats Regulations Assessment

Swanage Town Council

8th March 2026

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Revision History

Revision	Revision date	Details	Authorized	Name	Position
0	08/03/26	Draft	JR	James Riley	Technical Director (HRA)

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1. Introduction

AECOM was appointed by Swanage Town Council to undertake a Report to Inform the Habitats Regulations Assessment (HRA) of the Draft Swanage Neighbourhood Plan (the Plan) Regulation 14 version. This is to inform the planning group and local council Dorset Council ((DC), as competent authority) of the potential effects of Neighbourhood Plan (NP) development on European sites (Special Areas of Conservation, SACs, Special Protection Areas, SPAs, and Ramsar sites designated under the Ramsar convention), and how they are being, or should be, addressed in the draft NP.

Swanage Town Council is preparing the Swanage Neighbourhood Plan (SNP) to cover the period 2026-2043. The Neighbourhood Area was designated by DC in 2022 and coincides with the parish boundary. The Town Council is a 'qualifying body' to bring forward the Plan in accordance with the Neighbourhood Planning (General) Regulations 2012 (as amended). Once 'made' by DC, the Plan will become part of the Development Plan for Swanage. The Plan contains policies on spatial planning, design, green spaces, infrastructure, the Dorset Heathlands, the town centre and housing allocation sites.

For the purposes of this report, policies within the Local Plan at the time of writing, which comprises the Purbeck Local Plan (PLP)[1] 2018-2034 (adopted 2024), Swanage Local Plan (SLP) 2017-2027 (adopted 2017), Bournemouth, Christchurch, Poole and Dorset Waste Plan[2] (2019) and the Bournemouth, Dorset and Poole Minerals Strategy[3] (reviewed in 2020) have been considered and referenced where appropriate.
The objective of this report is to identify if any policies proposed in the SNP have the potential to cause Likely Significant Effects (LSEs) and, where identified, adverse effects on the integrity of European sites, either in isolation or in combination with other plans and projects, and to determine whether policy mitigation measures are required.

1.1 Local Context

Swanage is located at the eastern end of the Isle of Purbeck on Dorset's Jurassic Coast. It is the largest town in Purbeck. It is approximately 10 km south of Poole and 40 km east of Dorset. Swanage aces east to Swanage Bay and sits entirely within the Dorset Area of Outstanding Natural Beauty.

Swanage is a seaside town with a resident population of approximately 9,500. Population levels rise significantly during the tourist season, with around 151,000 staying visitor trips per year and 885,000 day visits. Tourism is a major economic driver and brings in around £73.5 million and supports approximately 1,500 jobs. Other employment includes retail, public services and light industry. Swanage experiences net out-commuting, with 810 more residents commuting out than in, highlighting a need to strengthen local employment opportunities.

Swanage is accessed by the Sandbanks chain ferry or the A351, both of which experience congestion. Swanage Railway is progressing work to connect with the South West mainline at Wareham.

1.2 The Vision for Swanage

The desired vision for Swanage in 2043 is "*Swanage will keep its dual role as a centre for local residents and a seaside resort. The town will be enhanced through the provision of a range of facilities, services, shops and employment. It will therefore retain its status as one of Dorset's most self-contained settlements, whilst further enhancing its special historic character and its setting within the Dorset National Landscape and the Jurassic Coast.*

New family housing and, in particular affordable housing, will allow local people the opportunity to continue to live and work within Swanage. A diverse, thriving and prosperous economy will be secured through the promotion of a variety of business uses, the development of niche businesses that reflect the specific character and culture of the town, and a broad business portfolio that will ensure a strong economy beyond the traditional tourist season.

New development will be accompanied by areas of new green space that will improve access to the countryside. The town's role as a visitor destination will be enhanced through the provision of improved health and sports facilities and the creation of enhanced public spaces along the seafront."

[1] https://www.dorsetcouncil.gov.uk/planning-buildings-land/planning-policy/purbeck-local-plan
[2] https://www.dorsetcouncil.gov.uk/w/2019-waste-plan
[3] https://www.dorsetcouncil.gov.uk/w/bournemouth-dorset-and-poole-minerals-strategy-2020

The objectives of the Neighbourhood Plan are to:

1. Deliver genuinely affordable homes of the kind Swanage needs whilst contributing to meeting Dorset's housing needs
2. Improve and maintain a thriving and resilient local commercial, business and service sector, with the town centre at its heart
3. Ensure the special architectural and historic character of the town – in its buildings, spaces – are conserved and enhanced
4. Ensure development in the town conserves and enhanced the natural beauty of the National Landscape and coastal habitats that surround it

The Neighbourhood Plan contains nine policies, each of which is intended to contribute to one or more of these objectives. Where a policy applies to specific land or sites in Swanage, this is shown on the Policies Map.

2. Legislative Framework

The UK left the EU on 31 January 2020 under the terms set out in the European Union (Withdrawal Agreement) Act 2020 ("the Withdrawal Act"). This established a transition period, which ended on 31 December 2020. The Withdrawal Act retains the body of existing EU-derived law within our domestic law. Habitats Regulations Assessment will continue as set out in the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019[4].

The HRA process applies the 'Precautionary Principle'[5] to European sites. Plans and projects can only be permitted having ascertained that there will be no adverse effect on the integrity of the European site(s) in question. Plans and projects with predicted adverse impacts on European sites may still be permitted if there are no alternatives to them and there are Imperative Reasons of Over-riding 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.

The need for Appropriate Assessment (**Box 1**) is set out in the Conservation of Habitats and Species Regulations 2017 (as amended).

Box 1: The legislative basis for Appropriate Assessment

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']."

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

- To assist the Qualifying Body (Dorset 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 (BCP 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') and undertake the formal Habitats Regulations Assessment decision.

As 'competent authority', the legal responsibility for ensuring that a decision of LSEs is made, an 'Appropriate Assessment' (where required) is undertaken, and 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, the term '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.

In spring 2018 the 'Sweetman' European Court of Justice ruling[6] clarified that 'mitigation' (i.e., measures that are specifically introduced to avoid or reduce a harmful effect on a European site that would otherwise arise) should

[4] these don't replace the 2017 Regulations but are just another set of amendments
[5] The Precautionary Principle, which is referenced in Article 191 of the Treaty on the Functioning of the European Union, has been defined by the United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2005) as: *"When human activities may lead to morally unacceptable harm* [to the environment] *that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that harm. The judgement of plausibility should be grounded in scientific analysis".*
[6] People Over Wind and Sweetman v Coillte Teoranta (C-323/17)

not be taken into account when forming a view on likely significant effects. Mitigation should instead only be considered at the Appropriate Assessment stage. This HRA has been cognisant of that ruling.

One of the key considerations during Appropriate Assessment is whether there is available mitigation that would address the potential effect. In evaluating significance, AECOM will rely on professional judgement as well as the results of bespoke studies, supported by appropriate evidence/data within this assessment.

2.1 Scope of the HRA

There are no standard criteria for determining the ultimate physical scope of an HRA of a Plan document. Therefore, in considering the physical scope of the assessment, we were guided primarily by the identified impact pathways (called the source-pathway-receptor model) rather than by arbitrary 'zones'. Current guidance suggests that the following international sites be included in the scope of assessment:

- All sites within the SPNP boundary; and,
- Other sites shown to be linked to development within the SPNP boundary through a known impact 'pathway' (discussed below).

Briefly defined, impact pathways are routes by which the implementation of a policy within a Neighbourhood Plan document can lead to an effect upon a European site. An example of this would be new residential development resulting in an increased population and thus increased recreational pressure, which could then affect European sites by, for example, disturbance of wintering or breeding birds.

1.1 Guidance from the Ministry of Housing, Communities and Local Government (MHCLG) states that the HRA should be 'proportionate to the geographical scope of the [plan policy]' and that 'an AA need not be done in any more detail, or using more resources, than is useful for its purpose' (MHCLG, 2006, p.6). More recently, the Court of Appeal ruled that providing the Council (competent authority) was duly satisfied that proposed mitigation could be 'achieved in practice' to satisfy that the proposed development would have no adverse effect, then this would suffice. This ruling has since been applied to a planning permission (rather than a Core Strategy document). 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 Reg 61 of the Habitats Regulations'.

2.2 The Layout of this Report

Chapter 3 of this report explains the methodology by which this HRA has been carried out, including the three essential tasks that form part of HRA. **Chapter 4** provides details of the relevant European sites, including conservation objectives and current pressures and threats. **Chapter 5** provides detailed background on the main impact pathways identified in relation to the Neighbourhood Plan and the relevant European sites. **Chapter 6** undertakes the screening assessment of Likely Significant Effects (LSEs) of the Plan's policies and site allocations. The conclusions arising from the HRA process so far are provided in **Chapter7**.

2.3 Quality Assurance

This report was undertaken in line with AECOM's Integrated Management System (IMS). Our IMS places great emphasis on professionalism, technical excellence, quality, environmental and Health and Safety management. All staff members are committed to establishing and maintaining our certification to the international standards BS EN ISO 9001:2015 and 14001:2015, ISO 44001:2017 and ISO 45001:2018. In addition, our IMS requires careful selection and monitoring of the performance of all sub-consultants and contractors.

All AECOM Ecologists working on this project are members (at the appropriate level) of the Chartered Institute of Ecology and Environmental Management (CIEEM) and follow their code of professional conduct (CIEEM, 2025).

3. Assessment Methodology

As part of the assessment of a proposed plan it is necessary to consider whether the plan is likely to have a signific The HRA will be carried out with reference to the general EC guidance on HRA[7] and that of the UK government[8].

Figure 1 below outlines the stages of HRA. 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.

3.1 Introduction

The UK left the EU on 31 January 2020 under the terms set out in the European Union (Withdrawal Agreement) Act 2020 ("the Withdrawal Act"). The transition period ended on 31 December 2020. However, the Withdrawal Act also retains the body of existing EU-derived law within our domestic law. Updates to the Conservation of Habitats and Species Regulations 2019 (as amended) make it clear that the HRA process continues despite Brexit.

As such this assessment of LSEs takes account of relevant EU case law (for instance, the Holohan and People over Wind cases, discussed below). **Plate 2** below outlines the stages of HRA for projects and each stage covered by this report is discussed below.

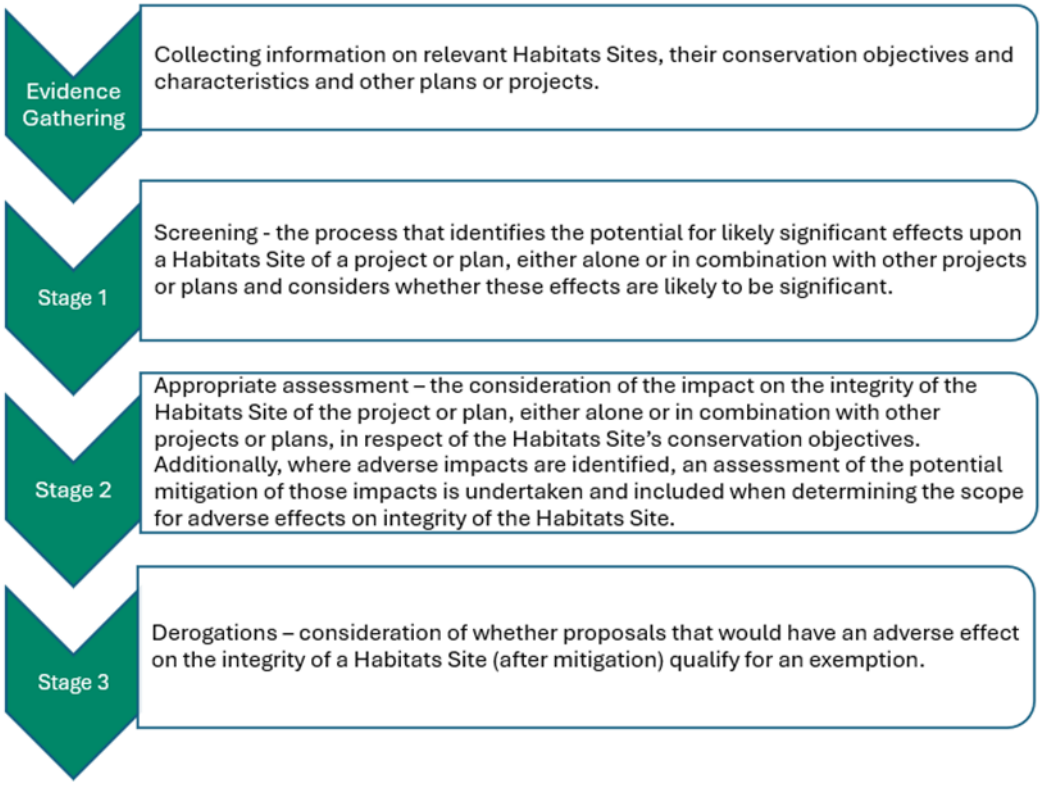


Plate 1. Four Stage approach to Habitats Regulations Assessments of Projects

3.1.1 HRA Stage 1 – Screening for Likely Significant Effects

Following evidence gathering, the first stage of any Habitats Regulations Assessment is a Test of Likely Significant Effects (ToLSE) test - essentially a brief, high-level 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?"

[7] European Commission (2001): Assessment of plans and projects significantly affecting Natura 2000 Sites: Methodological Guidance on the Provisions of Article 6(3) and 6(4) of the Habitats Directive.
[8] https://www.gov.uk/guidance/appropriate-assessment

The objective of the LSE test is to 'screen out' those aspects of a Plan that can, without any detailed appraisal, be said to be unlikely to result in significant adverse effects upon Habitats Sites, usually because there is no mechanism for an adverse interaction (i.e. a pathway) with Habitats Sites. The remaining aspects are then taken forward to Appropriate Assessment. The assessment must consider the potential for effects 'in combination' with other plans and projects.

The ToLSE is based on identification of the impact source, the pathway of impact to receptors and then confirmation of the specific European Site receptors. These are normally designated features but also include habitats and species fundamental to those designated features achieving favourable conservation status (notably functionally linked land outside the European site boundary).

In the Waddenzee case[9], the European Court of Justice ruled on the interpretation of Article 6(3) of the Habitats Directive, including that:

- An effect should be considered 'likely', "if it cannot be excluded, on the basis of objective information, that it will have a significant effect on the site" (para 44);
- An effect should be considered 'significant', "if it undermines the conservation objectives" (para 48); and
- Where a plan or project has an effect on a site "but is not likely to undermine its conservation objectives, it cannot be considered likely to have a significant effect on the site concerned" (para 47).

The ToLSE consists of two parts: Firstly, determining whether there are any policies that could result in negative impact pathways and secondly establishing whether there are any European sites that might be affected. It identifies European designated sites that could be affected by the Plan and also those impact pathways that are most likely to require consideration.

It is important to note that the ToLSE must generally follow the precautionary principle as its main purpose is to determine whether the subsequent stage of 'Appropriate Assessment' (i.e., a more detailed investigation) is required.

3.1.2 HRA Task 2- Appropriate Assessment

Where it is determined that a conclusion of 'no Likely Significant Effects' cannot be drawn, the analysis must proceed 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 ToLSE. Appropriate Assessment refers to whatever level of assessment is appropriate to form a conclusion regarding effects on the integrity (coherence of structure and function) of European Sites in light of their conservation objectives.

By virtue of the fact that it follows the ToLSE process, there is a clear implication that the analysis will be more detailed than undertaken at the previous stage. 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 would take any policies or allocations that could not be dismissed following the high-level ToLSE analysis and evaluate the potential for an effect in more detail, with a view to concluding whether there would actually be an adverse effect on site integrity (in other words, disruption of the coherent structure and function of the European site(s)).

In 2018 the Holohan ruling10 handed down by the European Court of Justice included among other provisions paragraph 39 of the ruling stating 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].

In evaluating significance, AECOM will rely on professional judgement as well as the results of bespoke studies, supported by appropriate evidence/data, and previous stakeholder consultation regarding the impacts of the SNP on the Habitats sites considered within this assessment.

Where necessary, measures will be recommended for incorporation into the Plan in order to avoid or mitigate adverse effects on European sites. There is considerable precedent, both nationally and locally, concerning the

[9] Case C-127/02
[10] Case C-461/17

level of detail that a Plan document needs to contain regarding mitigation for recreational impacts on European sites, for example. 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 Local Development Plan HRA regarding development impacts on the Habitats 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 detail 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.

3.1.3 Geographical Scope of the HRA

There are no standard criteria for determining the ultimate physical scope of an HRA. Rather, the source-pathway-receptor model should be used to determine whether there is any potential pathway connecting development to any European sites.

In the case of the SNP, an area extending to 10 km from the NP area boundary was selected in which European sites were identified. European sites where there is a pathway by which hydrological impact might occur were also included. A search radius of 10 km has been used for this analysis on the basis that any potential for pollution effects at greater distances is likely to be negligible due to dilution factors.

3.1.4 Confirming 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 combined regional housing development to impact 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 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 or policy would otherwise be screened out because its individual contribution is inconsequential.

The following plans are considered to have the potential to act in-combination with the SNP.

- Bournemouth Local Plan: Core Strategy (adopted 2021) https://www.bcpcouncil.gov.uk/Planning-and-building-control/Planning-policy/Current-Local-Plans/Bournemouth/Docs/Core-Strategy-1.pdf
- Christchurch and East Dorset Local Plan: Core Strategy (adopted 2014) https://www.bcpcouncil.gov.uk/Planning-and-building-control/Planning-policy/Current-Local-Plans/Christchurch/docs/christchurch-and-east-dorset-adopted-core-strategy.pdf
- Poole Local Plan (adopted 2018) https://www.bcpcouncil.gov.uk/Planning-and-building-control/Planning-policy/Current-Local-Plans/Poole/Docs/Final-version-28.11.18.pdf-for-web.pdf
- Swanage Seafront Masterplan (2025) 786c8c3a99dff14151c57a29da35ae2c_Swanage_Seafront_Masterplan_FINAL_20th_July.pdf
- The Dorset Heathlands Planning Framework 2020-2025 https://www.bcpcouncil.gov.uk/Planning-and-building-control/Planning-policy/Current-Local-Plans/Bournemouth/Docs/D1-Dorset-Heathlands-2020-2025-SPD-Adopted.pdf
- Dorset Heathlands Interim Air Quality Strategy 2020-2025 https://www.bcpcouncil.gov.uk/Planning-and-building-control/Planning-policy/Current-Local-Plans/Bournemouth/Docs/Air-Quality-mitigation-FINAL-1.pdf
- Poole Harbour Recreation 2019-2024 (adopted 2020) SPD https://www.bcpcouncil.gov.uk/Planning-and-building-control/Planning-policy/Current-Local-Plans/Poole/Docs/PH1-Poole-Harbour-Recreation-2019-2024-SPD-2020-Adoption.pdf

- Hurst Spit to Durlston Head Shoreline Management Plan (SMP15) http://www.twobays.net/index.htm
- Durlston Head to Rame Head Shoreline Management Plan (SMP16) Durlston Head to Rame Head SMP16 | Shoreline Management Plans
- Wessex Water – Water Resources Management Plan, 2024 wrmp24-main-technical-plan.pdf

It should be noted that, while the broad potential impacts of these other projects and plans has been considered, we have not carried out full HRA on each of these plans – we have however drawn upon existing HRAs that have been carried out for surrounding authorities and plans.

Within this document, each policy within the Neighbourhood Plan is subjected to HRA screening and is summarised in Table 6. Likely Significant Effects are then scrutinised in more detail in the main body of the report and, if necessary an Appropriate Assessment will then be undertaken.

4. Habitats Sites

A 10km buffer has been used to initially identify Habitats sites of relevance to the Scheme. Further consideration was given to impact pathways which may connect the Scheme to a Habitats site at a greater distance than this (none were identified).

In the case of the SNP, it has been determined that the European sites identified in Table 1 require consideration. The locations of these European sites in relation to the SNP boundary are illustrated in Appendix A, Figure 1A.

Table 1. European sites for consideration and their location in relation to Sandbanks Peninsula Neighbourhood Plan boundary

European site	Location and reason for inclusion
St Albans Head to Durlston Head SAC	**Within SNP boundary** Susceptible to inappropriate agricultural management changes, undergrazing, scrub clearance, spread of invasive species, recreational pressure, water pollution, inappropriate coastal management, burning, and natural changes to site conditions.
Poole Harbour SPA/ Ramsar	**1.56 km northwest of the Swanage boundary** Susceptible to recreational pressure and changes in air and water quality.
Dorset Heaths (Purbeck & Wareham) & Studland Dunes SAC	**Borders SNP boundary at its closest point** Susceptible to recreational pressure and changes in air quality. Wildfires/ arson
Dorset Heaths SAC	**5.75km west at its closest point** Susceptible to recreational pressure and changes in air quality.
Isle of Portland to Studland Cliffs SAC	**Within SNP boundary** Susceptible to inappropriate agricultural management changes, undergrazing, scrub clearance, spread of invasive species, recreational pressure, water pollution, inappropriate coastal management, burning, and natural changes to site conditions.
Dorset Heathlands SPA/ Ramsar	**4km west at its closest point** Susceptible to recreational pressure; wildfires/ arson
Solent and Dorset Coast SPA	**Within/adjacent to SNP boundary (marine site)**
Studland to Portland SAC	**Within/adjacent to SNP boundary (marine site)** Susceptible to sedimentation, water quality, exposure

Source: www.magic.defra.gov.uk

This was based upon a search of surrounding European sites and based on the vulnerabilities of the interest features of the European sites. All the above sites were subjected to the initial screening exercise. It should be noted that the presence of a conceivable pathway linking the NP area to a European site does not mean that likely significant effects will occur.

The reason for designation, conservation objectives and environmental vulnerabilities of the European sites are detailed in Appendix A.

5. Pathways of Impact

In carrying out an HRA it is important to avoid confining oneself to effectively arbitrary boundaries (such as Local Authority boundaries) but to use an understanding of the various ways in which Land Use Plans can impact on European sites to follow the pathways along which development can be connected with European sites, in some cases many kilometres distant. Briefly defined, pathways are routes by which a change in activity associated with a development can lead to an effect upon a European site. It is also important to bear in mind CLG guidance which states that the AA 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[11]).

Based upon Natural England Site Improvement Plans and professional judgement, there are several impact pathways that require consideration regarding increased development within the SNP area and said European sites.

The Solent and Dorset Coast SPA is a marine site designated for off-shore tern foraging and other activities. The Studland to Portland SAC is designated for its off-shore reef habitats. There is no plausible way in which the local plan could impact the qualifying features of these sites. Accordingly, these sites not assessed further in this report.

Poole Harbour SPA/Ramsar is subject to Natural England's nutrient neutrality advice. Swanage is outside of the Poole Harbour catchment [12]where this advice applies, therefore this is not considered relevant to this HRA.

The following pathways of impact were considered relevant to the HRA of the SNP.

- Public access/ recreational pressure/ disturbance;
- Nutrient enrichment
- Wildlife and Arson
- Noise and visual disturbance
- Changes in air quality

5.1 Background to Public Access/ Recreational Pressure/ Disturbance

There is growing concern over the cumulative impacts of recreation on key nature conservation sites in the UK, as most sites must fulfil conservation objectives while also providing recreational opportunity. Various research reports have provided compelling links between changes in housing and access levels and impacts on European protected sites[13] [14].

Recreational use of a site has the potential to:

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

[11] Department for Communities and Local Government. 2006. *Planning for the Protection of European Sites: Appropriate Assessment*. http://www.communities.gov.uk/index.asp?id=1502244
[12] Natural England Technical Advice Note TIN207
[13] Liley D, Clarke R.T., Mallord J.W., Bullock J.M. 2006a. The effect of urban development and human disturbance on the distribution and abundance of nightjars on the Thames Basin and Dorset Heaths. Natural England / Footprint Ecology.
[14] Liley D., Clarke R.T., Underhill-Day J., Tyldesley D.T. 2006b. Evidence to support the appropriate Assessment of development plans and projects in south-east Dorset. Footprint Ecology / Dorset County Council.

Different types of European sites (e.g., coastal, heathland, chalk grassland) 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.

5.1.1 Birds

Disturbance effects for birds can have an adverse effect in various ways, with increased nest predation by natural predators as a result of adults being flushed from the nest and deterred from returning to it by the presence of people and dogs likely to be a particular problem. A literature review on the effects of human disturbance on bird breeding found that 36 out of 40 studies reported reduced breeding success as a consequence of disturbance[15]. The main reasons given for the reduction in breeding success were nest abandonment and increased predation of eggs or young. Over years, studies of other species have shown that birds nest at lower densities in disturbed areas, particularly when there is weekday as well as weekend pressure[16].

Studies have shown that birds are affected more by dogs and people with dogs than by people alone, with birds flushing more readily, more frequently, at greater distances and for longer (Underhill-Day, 2005). 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. Nutrient-poor habitats are particularly sensitive to the fertilising effect of inputs of phosphates, nitrogen and potassium from dog faeces[17].

Underhill-Day (2005) summarises the results of visitor studies that have collected data on the use of semi-natural habitat by dogs. In surveys where 100 observations or more were reported, the mean percentage of visitors who were accompanied by dogs was 54.0%.

However, these studies need to 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[18]. A recent literature review undertaken for the RSPB[19] 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 facts have to be taken into account when attempting to predict the impacts of future recreational pressure on international sites.

It should be emphasised that recreational use is not inevitably a problem. Many European sites are also National Nature Reserves or nature reserves managed by Wildlife Trusts and the RSPB. At these 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 locating new development away from such sites; Local Plans and other strategic plans, including Neighbourhood 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.

5.1.1.1 Bird Disturbance Study

A study was undertaken in 2010/2011 by Footprint Ecology[20], who looked at bird disturbance in North Kent. The study focused on recreational disturbance to wintering waterfowl on intertidal habitats and focused on part of the North Kent shoreline, stretching between Gravesend and Whitstable; encompassing three SPAs: the Thames Estuary and Marshes SPA, the Medway Estuary and Marshes SPA and the Swale SPA. The key findings of the study are as follows:

[15] Hockin, D., M. Oundsted, M. Gorman, D. Hill, V. Keller and M.A. Barker (1992) – Examination of the effects of disturbance on birds with reference to its importance in ecological assessments. *Journal of Environmental Management*, **36**, 253-286.
[16] Van der Zande, A.N., J.C. Berkhuizen, H.C. van Letesteijn, W.J. ter Keurs and A.J. Poppelaars (1984) – Impact of outdoor recreation on the density of a number of breeding bird species in woods adjacent to urban residential areas. *Biological Conservation,* **30**, 1-39.
[17] Shaw, P.J.A., K. Lankey and S.A. Hollingham (1995) – Impacts of trampling and dog fouling on vegetation and soil conditions on Headley Heath. *The London Naturalist*, **74**, 77-82.
[18] Gill et al. (2001) - Why behavioural responses may not reflect the population consequences of human disturbance. *Biological Conservation,* **97**, 265-268
[19] Woodfield & Langston (2004) - Literature review on the impact on bird population of disturbance due to human access on foot. *RSPB research report* No. 9.
[20] D. Liley & H. Fearnley (Footprint Ecology), 2011. Bird Disturbance Study North Kent.

From 1,400 events (records of visitors in the bird survey areas) occurring within 200m of the birds, 3,248 species specific observations were noted of which:

- 74% resulted in no response.
- 13% resulted in a major flight.
- 5% resulted in a short flight.
- 5% resulted in a short walk.
- 3% resulted in an alert.

Dog walking accounted for 55% of all major flight observations with a further 15% attributed to walkers without dogs. After controlling for distance, major flights were more likely to occur when activities took place on the intertidal zone (compared to events on the water or events on the shore), when dogs were present, and the probability of major flight increased with the number of dogs present within a group.

There were significant differences between species with curlew *Numenius arquata* the species with the highest probability of major flight and teal and black-tailed godwit *Limosa limosa* the lowest.

Tide state was also significant with major flights more likely at high tide, after controlling for distance. There was also a significant interaction between distance and tide, indicating that the way in which birds responded varied according to tide.

5.1.2 Habitats

Coastal habitats are particularly vulnerable to recreational impacts because these environments are highly dynamic and continually change in response to biotic and abiotic factors. Sand dune communities are worldwide characterized by high levels of biodiversity but are often affected by human-induced impacts such as those caused by trampling.

In order to understand the effects of human frequentation, trampling, and other human-induced impacts, fencing experiments have been traditionally carried out on coastal dunes. Since in touristic areas dune systems are subjected to different intensities of human frequentations rather than to opening or fencing, studies have explored the effects of accessibility on vascular plants cover.

In general, plant communities subject to trampling tend to be poorer in species and less structured, since only dominant and tolerant plant species persist. Furthermore, limiting trampling appears to produce positive changes in the dune vegetation assemblage after a period of only two years[21]

A study was made of paths on a dune system at Winterton, Norfolk, by ground and aerial surveys and a map produced of the 35 km of major paths in 104 ha of dune[22]. Experiments were carried out on the resistance to trampling of a tall *Festuca ovina-Carex arenaria* sward. Estimates were made of the comparative vulnerability of other plant communities. The range extended from *Ammophila arenaria,* which was 10 x as vulnerable, to a short rabbit-grazed sward, only 13-14 x as vulnerable. The more vulnerable habitats unfortunately attracted more people. 42% of the paths at Winterton occur on the steep slopes dominated by *Ammophila*. Comparisons were made with a similar site at Meijendel where greater recreational pressure necessitated laid-out paths and fencing to control visitors. It was suggested that if visitor pressure increased at Winterton, similar management may also be required there.

The degree of impact and sensitivity of SAC and SPA habitats and species are summarised below in tables 2 and 3. It shows that most habitats and bird species have a degree of direct negative impact resulting from recreational site users.

[21] Santoro, R et.al. (2012) Effects of Trampling Limitation on Coastal Dune Plant Communities. Environmental Management DOI 10.1007/s00267-012-9809-6

[22] L.A. Boorman, R.M. Fuller. Studies on the impact of paths on the dune vegetation at Winterton, Norfolk, England, Biological Conservation, Volume 12, Issue 3, 1977, Pages 203-216.

Table 2. Relative sensitivity of moorland features to recreation and urban impacts

Habitats	Direct Impact		Indirect Impact	
	Trampling	**Disturbance**	**Fire**	**Management**
Dry dwarf-shrub heath	XX		XXX	
Wet dwarf-shrub heath	XXX		XX	
Blanket mire	XXX		XXX	
Mountain	XXX		X	
Acid grassland	XX		XX	
Calcareous grassland	XX			XX
Flushes/ springs	XXX			
Rock ledges	XX			
Screes	XX			
Breeding birds		XXX	XXX	XX
Wintering birds (raptor roosts)		X		

Table 3. Relative sensitivity of moorland plants

	Species	Notes	SAC/ SPA Presence
Least Sensitive	**Common bent/ crested dog's tail**	As in some in-bye land[23]	Not major component of SAC Annex 1 habitats
	Wavy hairgrass/ sheep's fescue	On mineral soils	Often minor component of SAC dry heath habitat
	Heather	Young	Major component of Annex 1 dry heath and blanket bog habitats
	Mat-grass	Usually on drier, thin peats or peaty mineral soils	Often component of heavily grazed dry heath
	Purple moor-grass	Usually on wetter flushed peaty soils	Major component of wetter heath and blanket bog habitats
	Bracken	Young plants	Can be invasive on drier heath and acid grassland habitats
	Heather	Old – old plants are brittle and easily broken	Major component of Annex 1 dry heath and blanket bog habitats. Important for nesting SPA birds
	Crowberry/ bilberry	On peat	Major component of Annex 1 dry heath and blanket bog habitats
	Cotton-grass spp.	Cotton-grass mire on peat	Major component of Annex 1 blanket bog habitats
Most Sensitive	***Sphagna***	Flushes, mire on peat	Major component of blanket bogs and transition mire habitats

Source: Adapted from Anderson (1990)

[23] In-bye land: part of a farm not comprising the hill and rough grazings.

The Dorset Household Survey[24] considered how different factors influence visitor rates to heathlands in south-east Dorset. The survey focused on the extent to which the presence or extent of different types of habitat and existing greenspace in the vicinity of where people live determines the amounts of visits people make to heaths.

The annual number of visits made per household to heaths correlated with the amount of heathland surrounding the home postcode, i.e., those people living in locations surrounded by lots of heathland visit heaths more often than those surrounded by less heathland. For those travelling to heaths on foot, the highest correlations were found with the area of heath within a distance of 1.5km. For car-borne visitors the highest correlation occurred using the area of heath within 5km and especially within 1.5km-5km.

There was an indication that people living close to the coast visit heaths less. When there is no heath within 500m of a household, the presence of coastal greenspace within any distance limit from 500m outwards up to 15km has a statistically significant reduction on both the likelihood of visiting any heath and the number of heath visits made in a year.

The only heath within 500m is the Dorset Heaths (Purbeck & Wareham) & Studland Dunes SAC, however, other Habitats sites are within 5km.

The following European sites are considered susceptible to recreational pressures within the context of the SNP:

- St Albans Head to Durlston Head SAC
- Dorset Heaths (Purbeck & Wareham) & Studland Dunes SAC
- Poole Harbour SPA/Ramsar
- Isle of Portland to Studland Cliffs SAC
- Dorset Heathlands SPA/ Ramsar

5.1.3 Nutrient enrichment

A major concern for nutrient-poor terrestrial habitats such as dune and heathland systems is nutrient enrichment associated with dog fouling, which has been addressed in various reviews (e.g.,[25]). It is estimated that dogs will defecate within 10 minutes of starting a walk and therefore most nutrient enrichment arising from dog faeces will occur within 400m of a site entrance. In contrast, dogs will urinate at frequent intervals during a walk, resulting in a spread-out distribution of urine. For example, in Burnham Beeches National Nature Reserve it is estimated that 30,000 litres of urine and 60 tonnes of dog faeces are deposited annually[26]. While there is little information on the chemical constituents of dog faeces, nitrogen is one of the main components[27]. Nutrient levels are the major determinant of plant community composition and the effect of dog defecation in sensitive habitats is comparable to a high-level application of fertiliser, potentially resulting in the shift to plant communities that are more typical of improved grasslands.

The Dorset Household Survey[28] also showed that dog owners visit greenspaces, and particularly heaths, more than non-dog owners. Dog owners make an average of 289.5 visits per year to any type of greenspace compared to an average of 119.5 annual visits by households without a dog (i.e., dog walkers make 2.4 times as many visits to green space as non-dog walkers). The ratio of dog owners to non-dog-owners is greatest for heaths, to which dog-owning households make over four times as many visits both on foot and by car.

As discussed above, there is a preference to visit coastal greenspace when there is no heath within 500m of a household.

The following European site is considered susceptible to nutrient enrichment within the context of the SNP:

- St Albans Head to Durlston Head SAC

[24] https://www.footprint-ecology.co.uk/reports/Clarke%20et%20al.%20-%202008%20-%20Access%20patterns%20in%20south-east%20Dorset.%20The%20Dorset%20h.pdf
[25] Taylor K., Anderson P., Taylor R.P., Longden K. & Fisher P. 2005. Dogs, access and nature conservation. English Nature Research Report, Peterborough.
[26] Barnard A. 2003. Getting the facts – Dog walking and visitor number surveys at Burnham Beeches and their implications for the management process. *Countryside Recreation* **11**:16-19.
[27] Taylor K., Anderson P., Liley D. & Underhill-Day J.C. 2006. Promoting positive access management to sites of nature conservation value: A guide to good practice. English Nature / Countryside Agency, Peterborough and Cheltenham.
[28] https://www.footprint-ecology.co.uk/reports/Clarke%20et%20al.%20-%202008%20-%20Access%20patterns%20in%20south-east%20Dorset.%20The%20Dorset%20h.pdf

- Dorset Heaths (Purbeck & Wareham) & Studland Dunes SAC
- Isle of Portland to Studland Cliffs SAC
- Dorset Heathlands SPA/ Ramsar

5.1.4 Wildfire and Arson

Wildfires are a periodic threat across the European sites and can adversely affect habitats through direct damage caused to the vegetation and soils, which results in loss of valuable habitat quality and associated wildlife alongside carbon release to atmosphere and to watercourses. Wildfires/ arson has been identified as a potential threat to the St Albans Head to Durlston Head SAC, Isle of Portland to Studland Cliffs SAC, Dorset Heaths (Purbeck & Wareham) & Studland Dunes SAC, Dorset Heaths SAC and Dorset Heathlands SPA/ Ramsar. The cause of ignition is generally accepted to be of human origin, with deliberate intent a pattern on some parts of the site and elsewhere careless behaviour near to footpaths and car parks appear to be the chief cause of ignition. Available research[29, 30] identifies the principal causes of 'wild' fires to be: deliberate fire-setting; camp fires that have got out of control; planned fires that have got out of control (e.g. part of moorland management for grouse); and bonfires that have got out of control.

Kirby & Tantram concluded that fires occurred at higher densities on the fringes of larger conurbations and in sites within developed urban areas, where fire events present a serious risk to ecological integrity. Within the Kirby & Tantram research a zone of 500m was used, based on the maximum likely access distance for average users of greenspace[31, 32,] and it was found that the degree of development within this zone correlated with incidence of fires (on Dorset Heathlands). There is also evidence to suggest that a significant proportion of deliberate fire setting is by children of school age. Both the Dorset Heaths SAC and Dorset Heathlands SPA/ Ramsar are beyond the 500m buffer zone. Furthermore, the 2021 Census Area Profile for Swanage[33] showed that this area has a greater proportion of older aged residents aged 65 or over (37.4% of the population), as opposed to only 11.7% of the population being under 16. Based on accessibility and demographics, it is considered highly unlikely that wildfire/ arson issues will result from implementation of the SNP and will not therefore be considered further within this HRA. **This pathway is screened out, both alone and in-combination.**

5.1.5 Background to Noise and Visual Disturbance

As detailed in the Recreational Pressure section above, human activity can affect birds either directly (e.g., through causing them to flee) or indirectly (e.g., through damaging their habitat). Human activity can also lead to behavioural changes (e.g., alterations in feeding behaviour, avoidance of certain areas etc.) and physiological changes (e.g., an increase in heart rate) that, although less noticeable, may ultimately result in major population-level effects by altering the balance between immigration/birth and emigration/death[34].

Recreational pressure is not the only potential source of disturbance. Construction work taking place immediately adjacent to the designated site or functionally linked land could cause disturbance and displacement of the designated birds. While any impact relating to demolition and construction activities will be temporary (in that birds would return once construction work ceased and the disturbance stimulus was removed) the resulting effect on population survival could be significant if it occurs during the winter/passage period and prevents birds from using feeding areas on which they rely. It should be noted that operational activities are unlikely to be temporary in nature and thus the impact of these activities could result in a more sever adverse reaction from designated bird features.

The degree of impact that varying levels of noise will have on different species of bird is poorly understood except that a number of studies have found that an increase in traffic levels on roads does lead to a reduction in the bird abundance within adjacent hedgerows - Reijnen et al (1995) examined the distribution of 43 passerine species (i.e., 'songbirds'), of which 60% had a lower density closer to the roadside than further away. By controlling vehicle usage they also found that the density generally was lower along busier roads than quieter roads[35].

[29] J. C. Underhill-Day, (2005) 'A literature review of urban effects on lowland heaths and their wildlife', English Nature Research Reports, Number 623
[30] J.S. Kirby & D.A.S Tantram (1999) 'Monitoring heathland fires in Dorset: Phase 1' Report to Department of the Environment, Transport and the Regions: Wildlife and Countryside Directorate
[31] Harrison, C, Burgess, J, Millward, A, Dawe, G. 1995. Accessible greenspace in towns and cities: A review of appropriate size and distance criteria. English Nature Research Report No. 153. English Nature, Peterborough.
[32] Box, J. & Harrison, C. 1993. Natural spaces in urban places. Town 19 Country Planning, 62(9): 231-235
[3333] Dorset Council, Area Profile for Swanage
[34] Riley, J. 2003. Review of Recreational Disturbance Research on Selected Wildlife in Scotland. Scottish Natural Heritage.
[35] Reijnen, R. et al. 1995. The effects of car traffic on breeding bird populations in woodland. III. Reduction of density in relation to the proximity of main roads. Journal of Applied Ecology 32: 187-202

A recent study on recreational disturbance on the Humber[36] assesses different types of noise disturbance on waterfowl referring to studies relating to aircraft (see Drewitt 1999[37]), traffic (Reijnen, Foppen, & Veenbaas 1997)[38], dogs (Lord, Waas, & Innes 1997[39]; Banks & Bryant 2007[40]) and machinery (Delaney et al. 1999; Tempel & Gutierrez 2003). These studies identified that there is still relatively little work on the effects of different types of water-based craft and the impacts from jet skis, kite surfers, windsurfers etc. (see Kirby et al. 2004[41] for a review). Some types of disturbance are clearly likely to invoke different responses. In very general terms, both distance from the source of disturbance and the scale of the disturbance (noise level, group size) will both influence the response (Delaney et al. 1999[42]; Beale & Monaghan 2005[43]). On UK estuaries and coastal sites, a review of WeBS data showed that, among the volunteer WeBS surveyors, driving of motor vehicles and shooting were the two activities most perceived to cause disturbance (Robinson & Pollitt 2002)[44].

Additionally, animals can be disturbed by the movement of ships. For instance, a DTI study of birds of the North West coast noted that: "*Divers and scoters were absent from the mouths of some busier estuaries, notably the Mersey... Both species are known to be susceptible to disturbance from boats, and their relative scarcity in these areas... may in part reflect the volume of boat traffic in these areas*"[45].

Three of the most important factors determining the magnitude of disturbance appear to be species sensitivity, proximity of the disturbance source and timing/ duration of the disturbance. Generally, 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.

An increasing amount of research on visual and noise disturbance of waterfowl from construction (and other activities) is now available. Both visual and noise stimuli may elicit disturbance responses, potentially affecting the fitness and survival of waterfowl and waders. Noise is a complex disturbance parameter requiring the consideration of multiple parameters, including the fact that it is not described on a linear scale, its nonadditive effect and the source-receptor distance. A high level of noise disturbance constitutes a sudden noise event of over 60 dB or prolonged noise of over 72 dB. Bird responses to high noise levels include major flight or the cessation of feeding, both of which might affect the survival of birds if other stressors are present (e.g., cold weather, food scarcity).

Generally, research has shown that above noise levels of 84 dB waterfowl show a flight response, while at levels below 55 dB there is no effect on their behaviour. These two thresholds are therefore considered useful as defining two extremes. The same authors have shown that regular noise levels should be below 70 dB at the bird, as birds will habituate to noise levels below this level. Generally, noise is attenuated by 6 dB with every doubling of distance from the source. For example, impact piling, which is a particularly noisy construction process of approximately 110 dB at 0.67 m from source, will therefore reduce to 67 – 68 dB by 100 m away from the source. The loudest construction noise will therefore have fallen to below disturbing levels by 100 m, and certainly by 200 m, away from the source even without mitigation.

Visual disturbance is generally considered to have a higher impact than noise disturbance as, in most instances, visual stimuli will elicit a disturbance response at much greater distances than noise. For example, a flight response is triggered in most species when they are approached to within 150 m across a mudflat. Visual disturbance can be exacerbated by workers operating equipment outside machinery, undertaking sudden movements and using

[36] Helen Fearnley Durwyn Liley and Katie Cruickshanks (2012) Results of Recreational Visitor Survey across the Humber Estuary produced by Footprint Ecology
[37] Drewitt, A. (1999) Disturbance effects of aircraft on birds. English Nature, Peterborough.
[38] Reijnen, R., Foppen, R. & Veenbaas, G. (1997) Disturbance by traffic of breeding birds: evaluation of the effect and considerations in planning and managing road corridors. Biodiversity and Conservation, 6, 567-581.
[39] Lord, A., Waas, J.R. & Innes, J. (1997) Effects of human activity on the behaviour of northern New Zealand dotterel Charadrius obscurus aquilonius chicks. Biological Conservation, 82,15-20.
[40] Banks, P.B. & Bryant, J.V. (2007) Four-legged friend of foe? Dog-walking displaces native birds from natural areas. Biology Letters, 3, 611-613.
[41] Kirby, J.S., Clee, C. & Seager, V. (1993) Impact and extent of recreational disturbance to wader roosts on the Dee estuary: some preliminary results. Wader Study Group Bulletin, 68, 53-58.
[42] Delaney, D.K., Grubb, T.G., Beier, P., Pater, L.L.M. & Reiser, H. (1999) Effects of Helicopter Noise on Mexican Spotted Owls. The Journal of Wildlife Management, 63, 60-76.
[43] Beale, C.M. & Monaghan, P. (2005) Modeling the Effects of Limiting the Number of Visitors on Failure Rates of Seabird Nests. Conservation Biology, 19, 2015-2019.
[44] Robinson, J.A. & Pollitt, M.S. (2002) Sources and extent of human disturbance to waterbirds in the UK: an analysis of Wetland Bird Survey data, 1995/96 to 1998/99: Less than 32% of counters record disturbance at their site, with differences in causes between coastal and inland sites. Bird Study, 49, 205.
[45] DTI (2006). Aerial Surveys of Waterbirds in Strategic Wind Farm Areas: 2004/05 Final Report

large machinery. Some species are particularly sensitive to visual disturbance, including curlew (taking flight at 275 m), redshank (at 250 m), shelduck (at 199 m) and bar-tailed godwit (*Limosa lapponica*) (at 163 m).

For the purpose of this assessment, a buffer of 300m has been used for visual and noise disturbance effects. The following Habitats sites are considered susceptible to visual and noise disturbance within the context of the SNP:

- St Albans Head to Durlston Head SAC
- Dorset Heaths (Purbeck & Wareham) & Studland Dunes SAC
- Isle of Portland to Studland Cliffs SAC

5.2 Changes in Air Quality

Current levels of understanding of air quality effects on semi-natural habitats are not adequate to allow a rigorous assessment of the likelihood of significant effects on the integrity of key European sites. 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 4. NOx can have a directly toxic effect upon vegetation. In addition, greater NOx or ammonia concentrations within the atmosphere will lead to greater rates of nitrogen deposition to soils. An increase in the deposition of nitrogen from the atmosphere to soils is generally regarded to lead to an increase in soil fertility, which can have a serious deleterious effect on the quality of semi-natural, nitrogen-limited terrestrial habitats. [46] [47].

Table 4. Main Sources and Effects of Air Pollutants on Habitats and Species

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

[46] 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
[47] 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

Pollutant	Source	Effects on habitats and species
		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 and from some chemical processes and vehicle exhausts. 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 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	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. 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.	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/m^3. 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, NOx 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	Concentrations of O_3 above 40 ppb can be toxic to both humans and wildlife and can affect buildings.

Pollutant	Source	Effects on habitats and species
	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 40 ppb ('episodes' or 'smog'). Reducing ozone pollution is believed to require action at international level to reduce levels of the precursors that form ozone.	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.

Source: Information summarised from the Air Pollution Information System (http://www.apis.ac.uk/)

Sulphur dioxide emissions are overwhelmingly influenced by the output of power stations and industrial processes that require the combustion of coal and oil. Ammonia emissions are dominated by agriculture, with some chemical processes also making notable contributions. As such, it is unlikely that material increases in SO_2 emissions will be associated with the SPNP.

Ammonia can have a directly toxic effect upon vegetation, particularly at close distances to the source such as near road verges[48]. NO_x can also be toxic at high concentrations (far above the annual average critical level) but generally only in the presence of elevated sulphur dioxide which is very rare in the UK. High levels of NO_x 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 can, if sufficiently great, enhance soil fertility and lead to eutrophication. This often has adverse effects on community composition and the quality of semi-natural, nitrogen-limited terrestrial and aquatic habitats[49, 50].

NO_x emissions, however, are dominated by the output of vehicle exhausts (more than half of all emissions). Within a 'typical' housing development, by far the largest contribution to NO_x (92%) will be made by the associated road traffic. Other sources, although relevant, are of minor importance (8%) in comparison[51]. Emissions of NO_x could therefore be reasonably expected to increase as a result of greater vehicle use as an indirect effect of the SPNP.
According to the World Health Organisation, the critical NO_x concentration (critical threshold) for the protection of vegetation is 30 μgm^{-3}; In addition, ecological studies have determined 'critical loads'[52] of atmospheric nitrogen deposition (that is, NO_x combined with ammonia NH_3) for key habitats within European sites.
According to the Department of Transport's Transport Analysis Guidance, *"Beyond 200m, the contribution of vehicle emissions from the roadside to local pollution levels is not significant"*[53] (Figure 2).

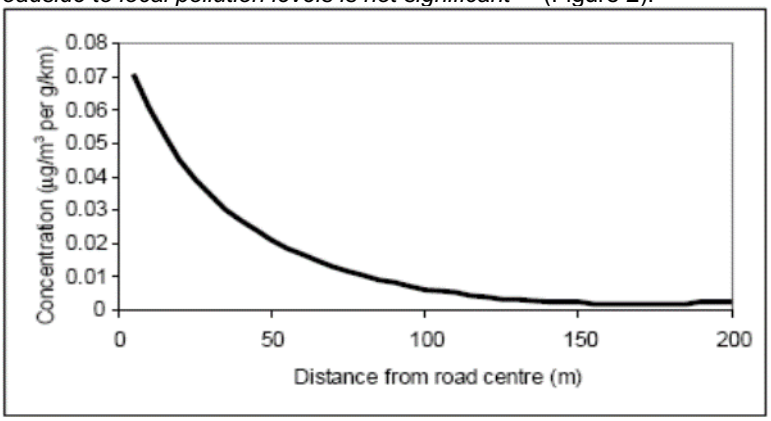


Figure 2: Traffic contribution to concentrations of pollutants at different distances from a road (Source: www.dft.gov.uk/ha/standards/dmrb/vol11/section3/ha20707.pdf)

[48] http://www.apis.ac.uk/overview/pollutants/overview_NOx.htm.
[49] 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
[50] 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
[51] 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
[52] The critical load is the rate of deposition beyond which research indicates that adverse effects can reasonably be expected to occur
[53] www.webtag.org.uk/archive/feb04/pdf/feb04-333.pdf

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 under the DWNP.

The only major road running through Swanage is the A351. This bisects the Dorset Heaths SAC approximately 5.75km from the boundary of Swanage. Minor roads comprise the B3351 which is adjacent to the Dorset Heathlands Ramsar /SPA, and the Dorset Heaths (Purbeck & Wareham) & Studland Downs SAC. More minor roads will take coastal traffic close to the St Albans Head to Durlston Head SAC, Isle of Portland to Studland Cliffs SAC, Studland to Portland SAC and Solent and Dorset Coast SPA.

Working in partnership, Dorset Council and Natural England (along with Bournemouth, Christchurch and Poole Council), have produced the Dorset Heathlands Interim Air Quality Strategy (2020 – 2025)[54]. The aim of the strategy is *"to address the adverse effect of airborne nitrogen upon the Dorset Heathlands designated sites by contributing to the achievement of the conservation objectives for air quality and in doing so, facilitate the delivery of planned development."* The Councils can partially address air quality issues by using developer contributions to fund targeted management of heathland but measures to actively reduce emissions are also required. The Councils have already implemented, or are already implementing, projects that will improve air quality on heathlands.

The following European sites are considered susceptible to air quality impacts within the context of the SNP:

- St Albans Head to Durlston Head SAC
- Dorset Heaths SAC
- Dorset Heaths (Purbeck & Wareham) & Studland Dunes SAC
- Dorset Heathlands Ramsar/SPA
- Isle of Portland to Studland Cliffs SAC

Having considered the impact pathways identified at paragraph 4.3, those shown in Table 5 will be taken to the next stage in the HRA process, the 'Test of Likely Significant Effects' (ToLSEs).

Table 5. Impact pathways and relevant European sites

Impact pathway	European site (s) potentially affected
Recreational pressure	St Albans Head to Durlston Head SAC Dorset Heaths (Purbeck & Wareham) & Studland Dunes SAC Poole Harbour SPA/Ramsar Isle of Portland to Studland Cliffs SAC Dorset Heathlands SPA/ Ramsar
Nutrient enrichment	St Albans Head to Durlston Head SAC Dorset Heaths (Purbeck & Wareham) & Studland Dunes SAC Solent and Dorset Coast SPA Studland to Portland SAC

[54]https://democracy.bcpcouncil.gov.uk/documents/s22089/Enc.%201%20for%20Dorset%20Heathlands%20Air%20Quality%20Strategy.pdf

Impact pathway	European site (s) potentially affected
Noise and visual disturbance	St Albans Head to Durlston Head SAC Dorset Heaths (Purbeck & Wareham) & Studland Dunes SAC Isle of Portland to Studland Cliffs SAC
Air quality	St Albans Head to Durlston Head SAC Dorset Heaths SAC Dorset Heaths (Purbeck & Wareham) & Studland Dunes SAC Dorset Heathlands Ramsar/SPA Isle of Portland to Studland Cliffs SAC

6. Test of Likely Significant Effects (ToLSE)

6.1 Introduction

When seeking to identify relevant European sites, consideration has been given primarily to identified impact pathways and the source-pathway-receptor approach, rather than adopting a purely 'zones'-based approach. The source-pathway-receptor approach is a standard tool in environmental assessment. In order for an effect to occur, all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism means there is no possibility for an effect to occur. Furthermore, even where an impact is predicted to occur, it may not result in significant effects (i.e., those which undermine the conservation objectives of a European site). Briefly defined, pathways are routes by which a change in activity can lead to a significant effect upon a European site.

The likely zone of impact (also referred to as the likely 'zone of influence') of a plan or project is the geographic extent over which significant ecological effects are likely to occur. The zone of influence of a plan or project will vary depending on the specifics of a particular proposal and must be determined on a case-by-case basis with reference to a variety of criteria, including:

- the nature, size / scale and location of the plan;
- the connectivity between the plan and European sites, for example through hydrological connections or because of the natural movement of qualifying species;
- the sensitivity of ecological features under consideration; and,
- the potential for in-combination effects.

6.2 Approach to the Draft Swanage Neighbourhood Plan Policy Screening

The PLP provides an up-to-date strategic policy framework for this Plan. Swanage is the largest of the three towns in the former district and a number of its policies are especially relevant:

- V1/H2: Spatial strategy for sustainable communities – providing for approx. 91 homes in Swanage
- E1: Landscape – restating the importance of the Dorset National Landscape
- E2: Historic Environment – restating the importance of designated and other heritage assets (e.g. the town's Conservation Areas and Listed Buildings)
- E4: Assessing Flood Risk – restating the importance of managing flood risk, to which parts of the town are especially exposed
- E6: Coastal change management areas – identifying the town as a CCMA for managing future development
- E7/E8/E9: Conservation of protected sites – identifying the town as being affected by a number of surrounding international habitats, including the Dorset Heathlands and Poole Harbour
- E12: Design – encouraging Neighbourhood Plans to provide the basis for locally distinctive design policies
- H8: Small sites next to existing settlements – allowing for housing schemes up to 30 homes on land adjoining a town Settlement Boundary but not if a neighbourhood plan has made its own provision to meet identified housing needs
- H9: Housing mix – encouraging neighbourhood plans to use local evidence to support local mix policies and encouraging schemes of more than 20 homes to provide 5% as self-build plots and 10% as bungalows
- H11: Affordable housing – requiring housing schemes to deliver between 20% and 40% as affordable homes on site, depending on their location, with a specific tenure mix
- H14: Second homes – requiring new housing in the town to have a restriction in perpetuity to ensure that such homes are occupied only as a principal residence

- EE1: Employment land supply – safeguarding the Prospect Business Park and Victoria Avenue Estate employment sites in the town
- EE3: Vibrant town and local centres – identifying Swanage town centre at the top of its hierarchy of centres
- I1: Developer contributions to deliver Purbeck's infrastructure – setting out habitat mitigation and other requirements for new development through CIL and S106
- I3: Green infrastructure, trees and hedge – promoting the principles of green infrastructure and encouraging neighbourhood plans to designate Local Green Spaces
- I4: Recreation, sport and open space – including safeguarding existing facilities
- I7: Community facilities and services – requiring new development to be well served by local facilities and services and safeguarding existing ones

The Swanage Local Plan contains ten policies. These policies are being replaced by policies within the SNP, with the exception of TCR Town centre Redevelopment which will expire in March 2027, and SA Swanage Allotments which has been superseded by national policy and PLP policies 14 and 17.

The emerging Dorset Local Plan (eDLP) will replace the PLP and cover the plan period to 2043. It is at an early stage in its preparation but is expected to be submitted for examination by the end of 2026. It will not have been adopted by the time of the examination of this Plan but its evidence and reasoning, as set out in the most recent consultation version of August 2025, was taken into account in the SNP. The SNP has also had regard to the national policy and guidance within the National Planning Policy Framework (NPPF 2024) and relevant policies in the draft NPPF (December 2025). NP policies were screened out of having likely significant effects on a European site where any of the following reasons applied:

- they are environmentally positive;
- they will not themselves lead to any development or other change;
- they make provision for change but could have no conceivable effect on a European site. This can be because there is no pathway between the policy and the qualifying features or a European site, or because any effect would be positive;
- they make provision for change but could have no significant effect on a European site (i.e., the effect would not undermine the conservation objectives of a European site); or,
- the effects of a policy on any particular European site cannot be ascertained because the policy is too general. For example, a policy may be screened out if, based on absence of detail in the policy, it is not possible to identify where, when, or how the policy may be implemented, where effects may occur, or which sites, if any, may be affected.

Any ‘criteria-based’ policy (i.e., those that simply list criteria with which development needs to comply) or other general policy statements that have no spatial element were also screened out. Likewise, policies that simply ‘safeguard’ an existing resource (e.g., existing green infrastructure or mineral resources) by preventing other incompatible development, were also screened out.

The appraisal therefore focussed on those policies with a definable spatial component. Having established which policies required scrutiny by virtue of being spatially defined, consideration was given as to whether likely significant effects could be dismissed due to a lack of connectivity to any European site for one of the following reasons:

- a potentially damaging activity may occur as a result of the policy but there is no pathway connecting it to a European site (due to distance, for example);
- there are no European sites vulnerable to any of the activities that the policy will deliver; or,
- the policy will not result in any damaging activities.

6.3 Results of Policy Screening

The results of the ToLSEs arising from the policies of the SPNP are presented in Table 6. Where a policy is shaded green, there are no linking impact pathways to European sites and LSEs can be excluded. Should the screening outcome be shaded orange, LSEs cannot be excluded and the policy would be screened in for Appropriate Assessment.

Of the nine SNP policies, seven were considered to have no potential to result in likely significant effects either alone or in combination with other plans and projects as they do not present impact pathways to European sites. The test of likely significant effects will focus on these policies with regards to the vulnerabilities of the Habitat sites within Table 1. The impact pathways relating to the Habitat sites' vulnerabilities are listed below and will each be discussed:

- Recreational pressure;
- Nutrient enrichment;
- Noise and visual disturbance.

6.3.1 Recreational Pressure

6.3.1.1 St Albans Head to Durlston Head, and Isle of Portland to Studland Cliffs SAC

This St Albans to Durlston Head SAC runs contiguously with the Isle of Portland to Studland Cliffs SAC, and together they form a single unit of principally hard cliffed coastline some 40 km in length. A single Site Improvement Plan covers both sites, and both have the same vulnerabilities.

Recreational activities, including walking with dogs and off-road cycling is one of the factors contributing to a reduction in sustainable grazing on the sites. This results in a loss of species diversity in the calcareous grassland, with the loss of habitat suitable for early gentian and early spider orchid.

Housing allocations 03, 06, 10 and 13 are within 500m of one of these sites, all housing allocations are within 2km. A net increase in new dwellings within the SNP area has the potential to have a significant effect on increasing recreational pressure within the Habitat sites, both alone and in combination with other plans and projects and **will therefore be discussed further within the Appropriate Assessment.**

6.3.1.2 Dorset Heathlands

Dorset Heathlands SAC is designated for its extensive lowland heathland, which forms one of the best developed and most significant tracts of heathland in the lowlands of the UK. The SPA is designated for breeding nightjar *Caprimulgus europaeus*, woodlark *Lullula arborea*, Dartford warbler *Sylvia undata* as well as wintering hen harrier *Circus cyaneus* and merlin *Falco columbarius.*

Dorset Heaths (Purbeck & Wareham) & Studland Dunes SAC is an extensive lowland heathland area. Formerly a single tract divided only by river valleys it is now fragmented. The heathlands comprise a wide range of different habitat types related to variation in soils, hydrology, water chemistry and land use history.

It is widely understood that the Dorset Heathlands Habitat sites are vulnerable to recreational pressure. As such, a strategic approach to avoiding and mitigating the potential impacts of increasing recreational pressure has been developed for the Dorset Heathlands. This is set out within the Dorset Heathlands Planning Framework Supplementary Planning Document (SPD)[55]. The SPD details that *"Natural England has advised the authorities of concerns arising from the increase in residential development across South East Dorset and the resultant pressures placed upon protected heathland by new occupants of these developments living in close proximity to the heathlands."* It also states that *"On the basis of the evidence, the proposed increase in residential development within 5 km of the Dorset Heathlands will inevitably result in greater urban pressures upon the heathlands. Therefore Natural England advises that the cumulative effect of a single dwelling up to 5 km from the Dorset Heathlands would have a likely significant effect on those designated sites."*

Given that the Dorset Heathlands Habitat sites are within the SNP area it is regarded that a net increase in new dwellings within the SNP area has the potential to have a significant effect on increasing recreational pressure within the Habitat sites, both alone and in combination with other plans and projects and **will therefore be discussed further within the Appropriate Assessment.**

6.3.1.3 Poole Harbour SPA/Ramsar

Poole Harbour SPA was originally classified in 1999 for supporting qualifying numbers of non-breeding avocet, black-tailed godwit, shelduck, and breeding populations of common tern and Mediterranean gull. In 2017, the SPA

[55] Dorset Council. The Dorset Heathlands Planning Framework 2020-2025. Supplementary Planning Document. April 2020. Available at: https://www.dorsetcouncil.gov.uk/documents/35024/309543/Dorset+Heathlands+2020-2025+SPD+Adopted.pdf/bda03d74-cbc9-57c9-b3be-6253ba2825fb

was extended to incorporate subtidal, saltmarsh and wet grassland areas that support internationally important bird populations, and had three new species added that now exceed qualifying thresholds: breeding Sandwich tern, and non-breeding little egret and spoonbill.

Disturbance to wintering and passage wildfowl can result in a reduction in time spent feeding due to repeated flushing/increased vigilance[56], avoidance of suitable habitat[57]and increased stress.[58] Dorset Council adopted a SPD[59] to deliver mitigation for the impacts of recreation at Poole Harbour. The defined Poole Harbour Recreation Zone includes Swanage.

SNP policies have the potential to have a significant effect on increasing recreational pressure within the Habitat sites, both alone and in combination with other plans and projects and **will therefore be discussed further within the Appropriate Assessment.**

6.3.2 Nutrient Enrichment

6.3.2.1 St Albans Head to Durlston Head, and Isle of Portland to Studland Cliffs SAC

Use of these sites for dog walking can bring about nutrient enrichment as dog faeces are rich in nutrients. The calcareous grassland is nutrient poor, and enrichment can result in the growth of more competitive species, such as courser grasses. This change in vegetation can result in the loss of calcareous species such as early gentian (*Gentianella anglica*) and invertebrates.

Development of new housing within the SNP area has the potential to have a significant effect through potential for increasing nutrient enrichment within the Habitat sites, both alone and in combination with other plans and projects and **will therefore be discussed further within the Appropriate Assessment.**

6.3.2.2 Dorset Heathlands

Use of the Dorset heathland sites for dog walking can bring about nutrient enrichment as dog faeces are rich in nutrients. Heathland soils tend to be relatively nutrient poor. Nutrient enrichment can result in changes to the vegetation community, with grassy swords becoming dominant. This change in vegetation can result in a loss of habitat for birds and invertebrates.

Nutrient enrichment and recreational impacts are synergistic. Development close to heathland sites is likely to have the greatest impact, with development within 400m likely to have the greatest impact.

Development of new housing within the SNP area has the potential to have a significant effect through potential for increasing nutrient enrichment within the Habitat sites, both alone and in combination with other plans and projects and **will therefore be discussed further within the Appropriate Assessment.**

6.4 Noise and Visual Disturbance

Noise and visual disturbance may occur through demolition and construction activities associated with development. Impact is greatest the closest the development is to the receptor. The closest allocated site is site 03 The former Police Station, Argyll Road, which is approximately 400m from the inland area of the St Albans to Dunston Head SAC. Other development is more distant from Habitats sites.

Development in close proximity to Habitats sites has the potential to have a significant effect on the integrity of the site **will therefore be discussed further within the Appropriate Assessment.**

6.4.1 Air Quality

The development proposals set out within the SNP are very unlikely to have a significant impact on air quality given the quantum of development. The only A road within Swanage is the A351 which is the main road across the Isle of Purbeck. This bisects the Dorset Heaths SAC approximately 5.75km from the boundary of Swanage. Minor roads comprise the B3351 which is adjacent to a very small length (approximately 200m) of the Dorset Heathlands

[56] Yasué, M. (2005). The effects of human presence, flock size and prey density on shorebird foraging rates. Journal of Ethology, 23(2), 199–204. doi: 10.1007/s10164-005-0152-8
[57] Burton, N. H., Rehfisch, M. M., & Clark, N. A. (2002). Impacts of disturbance from construction work on the densities and feeding behavior of waterbirds using the intertidal mudflats of Cardiff Bay, UK. Environ Manage, 30(6), 865–871.
[58] Thiel, D., Jenni-Eiermann, S., Palme, R., & Jenni, L. (2011). Winter tourism increases stress hormone levels in the Capercaillie Tetrao urogallus. Ibis, 153(1), 122–133. doi: 10.1111/j.1474-919X.2010.01083.x
[59] Dorset Council (2020) Poole Harbour Recreation 2019-2024 Supplementary Planning Document.

Ramsar /SPA, and the Dorset Heaths (Purbeck & Wareham) & Studland Downs SAC. **Given the small scale of proposed new development within Swanage, and the minor impact that local traffic creates compared to tourism related traffic, air quality is screened out as there will be no likely significant effects on any Habitats site and no requirement to progress to appropriate assessment.**

Two of the Policies, **Policy SWAN3** and **SWAN4** were screened in for appropriate assessment with respect to the above screened in impact pathways as they specified locations for, and quantum of development and LSE could not be ruled out at this stage.

Results of Policy Screening

Table 6. Screening table of the policies included in the Sandbanks Peninsula Neighbourhood Plan

Policy number/ name	Policy summary (full policy details can be found in the NP document)	Likely Significant Effects Screening Assessment
Landscape, Design and Conservation		
SWAN1: A Spatial Plan for Swanage	A. The Neighbourhood Plan defines the Swanage Settlement Boundary, as shown on the Policies Map for the purpose of applying National Decision-Making Policies S4 and S5. B. The Neighbourhood Plan provides for the delivery of approx.300-350 homes in the period to 2043, comprising the sites allocated within and adjoining the Settlement Boundary in Policy SWAN3. Additional homes may be delivered through windfall schemes on suitable sites within the Settlement Boundary.	**No likely significant effect, screened out.** This is a development management policy and does not allocate sites for development. However, it does It does specify a quantum for development. There are no pathways linking this policy to any European sites. Developments will be considered at the planning stage to ensure they comply with this policy, the NPPF and other relevant policies.
SWAN2: Housing Mix of Types	Substantial weight will be given to the benefits of providing homes that will contribute towards meeting the evidenced needs of Swanage for: ▪ The delivery of some 4+ bedroom homes on all schemes of six or more units, unless it can be demonstrated that meeting this requirement is not feasible for site-specific reasons; and ▪ The delivery of houses and bungalows on greenfield sites and not flatted accommodation, unless it can be demonstrated this type of development is necessary to achieve a viable scheme.	**No likely significant effect, screened out.** This is a development management policy and does not allocate sites for development. It does not specify a location or quantum for development
SWAN3: Development Sites	The Neighbourhood Plan allocates the following sites within the Settlement Boundary, as shown on the Policies Map, for residential and/or mixed use development schemes. Development proposals will be supported, provided they meet the key, site-specific land use and development principles set out below: **The Former Police Station, Argyle Road (Site Code 03)**	**Potential for likely significant effect, screened in.** Additional housing development has the potential to result in LSE due to recreational pressure, nutrient enrichment, disturbance or air quality.

Policy number/ name	Policy summary (full policy details can be found in the NP document)	Likely Significant Effects Screening Assessment
	i. The site may either be cleared and redeveloped or the existing building may be retained and converted into approx. 6 homes, or some combination of the two to deliver a scheme of approx. 20 homes; ii. The scheme design must address the risk of flooding from various sources on parts of the site; iii. If redeveloped the built form must be of a perimeter block type facing onto Kings Road West and Argyle Road of 2.5 storeys in height (including prominent gabled dormers above full height, canted bay windows); iv. The corner plot at the road junction must respond to its prominence in views eastwards along Kings Road West by using some architectural device that adds interest and legibility to the streetscene to complement other corner plots in the vicinity; v. The scheme design should seek to save and reuse the distinctive concrete moulded name plate on the existing building front elevation as a remainder of the site's past use; vi. The building line must be no more than 3m behind the back of pavement on Kings Road West or 2m on Argyle Road with the boundary defined by a low brick wall; and vii. Car parking must be provided to the rear and is accessed from Argyle Road via an archway in the building frontage. **The Former Harrow House School, off Walrond Road (Site Code 05)** viii. The scheme comprises the retention and conversion of the main school building for flatted accommodation site and the clearance and redevelopment of the remainder of the site to deliver a scheme of approx. 80 homes comprising a mix of houses and apartments; ix. In addition to the retained main school building, scheme layout should comprise two zones of maximum building heights of three storeys on the land adjoining the existing school building to its east, and a mix of two and three storeys on the remainder of the developable area; x. The scheme layout must not position new buildings any closer to the listed Cauldron Barn and Farmhouse than the existing buildings and the landscape scheme should bolster the screening between the two sites; xi. The building forms should comprise a variety of pitched and hipped roofs to create a roofscape that blends into the surrounding suburban character of the Northbrook Road area to its south and east; and	

Policy number/ name	Policy summary (full policy details can be found in the NP document)	Likely Significant Effects Screening Assessment
	xii. The existing open space on the site south of the school must remain undeveloped and should be transferred to an appropriate body to maintain as a public open space in perpetuity. **The Former Purbeck View School, off Northbrook Road (Site Code (06)** xiii. The site may either be cleared and redeveloped or the existing building may be retained and converted into approx. 6 homes, or some combination of the two to deliver a scheme of approx. 50 homes; xiv. Irrespective of which development option is proposed, the chapel building must be retained and re-used; xv. If redeveloped the building heights must be no higher than the existing buildings on the site; xvi. The building forms should comprise a variety of pitched and hipped roofs to create a roofscape that blends into the surrounding suburban character of the Northbrook Road area to its south and east; xvii. The site should be accessed by vehicles from the existing northern access on to Northbrook Road with the existing southern access at the junction of Northbrook Road and Walrond Road used only for pedestrian and cycle access; and xviii. The landscape scheme must retain the mature tree and hedge boundary to Northbrook Road. xix. **Land at Kings Court Business Centre & Town Depot, Kings Road West (Site Code 10)** xx. The site may be cleared and redeveloped to deliver a mixed-use scheme of approx. 20 homes and commercial and business units in Use Classes E(d)(f) and (g) only; xxi. The scheme layout and design must reflect the relative vulnerability of different uses to the risk of flooding on part of the site; xxii. The arrangement of residential and commercial and business units, and the nature of the operation of the commercial and business units, must mitigate any harm to residential amenity arising from noise pollution; xxiii. The arrangement and height of the buildings should allow for a view of Studland Hill from Court Road; xxiv. the built form must comprise a perimeter block type facing onto Kings Road West and Court Road of 2.5 storeys in height (including prominent gabled dormers above full height, bay windows) with a courtyard arrangement of units to the rear;	

Policy number/ name	Policy summary (full policy details can be found in the NP document)	Likely Significant Effects Screening Assessment
	xxv. The corner plot at the road junction must respond to its prominence in views eastwards and westwards along Kings Road West and northwards along Court Road by using some architectural device that adds interest and legibility to the streetscene to complement other corner plots in the vicinity; xxvi. The building line must be no more than 2m behind the back of pavement on Kings Road West or 1m on Court Road with any boundaries defined by a low stone wall; and xxvii. Car parking must be provided to the rear and should be accessed from either Kings Road West or Court Road via an archway in the building frontage. xxviii. B. The Neighbourhood Plan allocates Land North of Prospect Way (Site Code 11) adjoining the Settlement Boundary, as shown on the Policies Map, for a major residential scheme and a Suitable Alternative Natural Greenspace (SANG). Development proposals will be supported, provided they meet the key, site-specific land use and development principles set out below: xxix. The residential scheme on the developable area shown on the Concept Plan in Fig X below must comprise an area for approx. 100 open market homes and an area for a community-led development of approx. 70 affordable homes, but need not provide for any self build or custom build homes; xxx. The remainder of the site at Prospect Smallholding must accommodate a new SANG of a specification to be agreed; xxxi. The vehicular access to the developable area and SANG must be from Prospect Way only, with additional pedestrian access from the existing public rights of way (Path SE3/23 from Cauldron Barn Road to Smiths Farm and Path SE3/24 from Prospect Crescent to Path SE3/2) as they enter the site; xxxii. The existing public rights of way that cross the site (Paths SE3/23 and SE3/24) must be retained but may be redirected within the site to suit the proposed arrangement of amenity space and green infrastructure; xxxiii. The layout and landscape scheme should provide for an effective transition from the developable area to the National Landscape countryside the west; and xxxiv. The building forms should be no more than two storey houses of a variety of pitched and hipped roofs to create a roofscape that blends into the surrounding suburban character of Prospect Crescent and Smiths Farm to its south and of the wider suburban area to its east. C. The Neighbourhood Plan allocates Land off Ulwell Road (Site Code 13) adjoining the Settlement Boundary, as shown on the Policies Map, for a community-led development of	

Policy number/ name			Policy summary (full policy details can be found in the NP document)	Likely Significant Effects Screening Assessment
			affordable homes. Development proposals will be supported, provided they meet the key, site-specific land use and development principles set out below: xxxv. The residential scheme should comprise approx. 10 homes, which may include a minimum number of open market homes that can be demonstrated to be necessary for scheme viability, provided the proportion of those homes is no greater than 25%; xxxvi. The scheme layout must address the risk of flooding on the perimeters of the site; xxxvii. The scheme layout should comprise buildings that front onto Ulwell Road following the predominant building line along the road north and south of the site; xxxviii. The loss of vegetation on the site frontage should be compensated for by bolstering the planting around the other site edges and private garden spaces as part of the landscape scheme; and xxxix. The buildings should be no more than two storeys in height. D. Proposals for all the sites allocated in this policy must be accompanied by information reasonably required to undertake an appropriate assessment for likely significant effects under the Conservation of Habitats and Species Regulations (amended) and demonstrate how the development will avoid or otherwise mitigate any adverse impact on the integrity of any relevant site(s) in the national site network.	
A.	SWAN4: Town Centre		A. The Neighbourhood Plan defines the boundary of Swanage Town Centre, as shown on the Policies Map for the purpose of applying National Decision-Making Policies TC2 and TC3. B. Proposals to redevelop the former Post Office on Kings West Road and the existing Sorting Depot on Kings Road East, as shown on the Policies Map, will be supported for a mixed use scheme comprising commercial or business Use Classes E(a)(b) and/or (c) on the ground floor with residential units above, provided: xl. The buildings fronting onto Kings Road West are three storeys in height and the buildings fronting on to Kings Road East are two storeys; xli. The building line to Kings Road West is no further forward than the position of the adjoining buildings and the building line to Kings Road East is no more than 1m behind the back of pavement; xlii. The building forms are terraced with pitched roofs; xliii. The scheme layout and design must reflect the relative vulnerability of different uses to the risk of flooding on part of the site; xliv. The amenities of the established social use of No.27 Kings Road West and of the residential use of No.28 Kings Road East are not harmed; and	**Potential for LSE- screened in** Additional housing development has the potential to result in LSE due to recreational pressure, nutrient enrichment, disturbance or air quality.

Policy number/ name	Policy summary (full policy details can be found in the NP document)	Likely Significant Effects Screening Assessment
	xlv. The vehicular access is from Kings Road East, including any servicing of the new commercial or business uses.	
SWAN5: Design Guidance	The Neighbourhood Plan designates Areas of Special Character, as shown on the Policies Map, for the purpose of applying National Decision-Making Policies DP3 (on key principles for well-designed places) and HE7 (on decisions on non-designated heritage assets) by reference to the Swanage Townscape Character Assessment. The design quality of development proposals will be assessed against the Swanage Townscape Character Assessment, the Purbeck District Design Guide (until replaced by the Dorset Design Code) and the Swanage Green Infrastructure Strategy In applying the relevant National Decision-Making Policies.	**No likely significant effect screened out.** This policy refers to design guidance and does not allocate sites for development. There are no pathways linking this policy to any Habitats sites. Developments will be considered at the planning stage to ensure they comply with this policy, the NPPF and other relevant policies.
SWAN6: Green Spaces & Recreation	A. The Neighbourhood Plan designates the following sites, as shown on the Policies Map, as Local Green Spaces for the purpose of applying National Decision-Making Policy HC8: xlvi. Beach Gardens xlvii. Northbrook Copse xlviii. Open space on the seafront formed by the Recreation Ground, Sandpit Field, Weather Station Field and The Spa xlix. Playing Field off Bon Accord Road l. Benlease Greenspace off Day's Road li. The open space formed by King George V Playing Field, Queen Elizabeth II ('Forres') Field and Kirkwood Park off Victoria Avenue lii. Herston Village Green, Washpond Lane liii. Herston Community Field, off Jubilee Road liv. Public Open Space, Marsh Way lv. Prince Albert Gardens 2. The Neighbourhood Plan identifies the following open spaces and recreation areas, as shown on the Policies Map, for the purpose of applying National Decision-Making Policy HC7: i. Days Park and Journey's End ii. Swanage Cricket Club iii. Prospect Allotments	**No likely significant effect, screened out.** This policy seeks to provide provision for public open space and recreation. Developments will be considered at the planning stage to ensure they comply with this policy, the NPPF and other relevant policies.

Policy number/ name	Policy summary (full policy details can be found in the NP document)	Likely Significant Effects Screening Assessment
	iv. Peveril Point and The Downs Local Nature Reserve v. Durlston Country Park vi. Townsend Nature Reserve vii. St. Mark's School and The Swanage School playing fields viii. Playing field off Sydneham Road	
SWAN7: The Sandpit Field Stabilisation and Enhancement Scheme	Development proposals to stabilise and enhance Sandpit Field, as shown on the Policies Map, will be supported to protect it as an important public open space, provided they: ▪ Improve ground stability; ▪ Remove and infill the section of Walrond Road east of De Moulham Road in order to create a larger, continuous area of public open space; ▪ Result in no net loss to the overall area of greenspace and achieve a net gain in biodiversity; ▪ Use of high quality design to improve the appearance of the area, in keeping with the Dorset National Landscape and the setting of the Swanage Conservation Area; ▪ Improve site accessibility by creating step-free accesses where feasible; and ▪ Conserve and enhance heritage assets.	**No likely significant effect, screened out.** This policy does not allocate sites for development. There are no pathways linking this policy to any European sites. Projects will be considered at the planning stage to ensure they comply with this policy, the NPPF and other relevant policies.
SWAN8: Local Infrastructure	The Neighbourhood Plan identifies the following local infrastructure priorities for the investment of Community Infrastructure Levy receipts in Swanage: i. Community-led affordable housing development ii. Town centre management iii. Sports, leisure and cultural facility improvement	**No likely significant effect, screened out.** This is a development management policy and does not allocate sites for development. There are no pathways linking this policy to any Habitats sites. Developments will be considered at the planning stage to ensure they comply with this policy, the NPPF and other relevant policies.
SWAN9: Dorset Heathlands	The impact of proposed development on the Dorset Heathlands Special Area of Conservation, alone or in combination with other existing and proposed development, must be screened for likely significant effects under the Conservation of Habitats and Species Regulations 2017 (as amended). Where there is a probability or risk of a significant effect, the proposed development will be subject to an appropriate assessment (taking into account the lifetime of the development). Development proposals should, therefore, be accompanied by information reasonably required to undertake an	**No likely significant effect, screened out.** This policy establishes a requirement for HRA, and, if necessary, avoidance and mitigation measures. It does not promote development nor does it establish mitigation measures..

Policy number/ name	Policy summary (full policy details can be found in the NP document)	Likely Significant Effects Screening Assessment
	appropriate assessment, and demonstrate how the development will avoid or otherwise mitigate any adverse impact on the integrity of any relevant site(s) in the national site network.	

Source: Policy wording taken from Draft Swanage Neighbourhood Plan (Regulation 14 version, January 2026).

7. Appropriate Assessment

7.1 Introduction

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

The HRA screening exercise undertaken in Table 6, indicates that two policies, both of which refer to site allocations, were considered to pose LSEs to Habitats sites, either alone or in combination with other projects and plans, due to contributing to one or more of the following impact pathways: recreational pressure, noise and visual disturbance, nutrient enrichment and atmospheric pollution.

7.2 Recreational Pressure

The Dorset Heathlands Planning Framework 2020-2025 Supplementary Planning Document[60] was prepared jointly by Bournemouth, Christchurch and Poole Council (BCP Council) and Dorset Council with the advice of Natural England.

The purpose of this SPD is to set out the approach to avoid or mitigate harm arising from increased urban related pressures on the Dorset Heathlands. This SPD accords with the principles of the National Planning Policy Framework (NPPF) (2024) and it is a result of the co-operative approach to partnership working between the Councils, statutory bodies and other organisations. It is the purpose of the document to set out the approach that, together, the two Councils will follow. This forms a basis for how harm to the heathlands can be avoided.

As discussed in Section 4 of this report, various studies, have found that public access to lowland heathland, from nearby development, has led to an increase in wild-fires, damaging recreational uses, the introduction of incompatible plants and animals, loss of vegetation and soil erosion and disturbance by humans and their pets amongst other factors have an adverse effect on the heathland ecology.

Some of these effects are direct impacts on the designated sites but many, such as recreational use, will be ongoing for the duration of the development. In the case of additional housing, the effects arising are considered to be permanent requiring ongoing mitigation measures.

On the basis of the evidence, the proposed increase in residential development within 5 km of the Dorset Heathlands will inevitably result in greater urban pressures upon the heathlands. Therefore Natural England advises that the cumulative effect of a single dwelling up to 5 km from the Dorset Heathlands would have a likely significant effect on those designated sites.

The Councils are in agreement that avoidance or mitigation measures are required to enable the Councils to continue to grant permission for residential development within 5 km of these designated sites. Site allocations put forward in Policies SWAN3 and SWAN4 all within the 5km buffer, however none are within the 400m area for restrictions on development.

In order to enable development, the SPD puts forward ‘The Dorset Heathlands Avoidance and Mitigation Strategy’. The strategy consists of two mutually dependent and supporting policy mechanisms:

- Restrictions on development within the 400 metres heathland area; and
- Mitigation associated with some types of development within the 400 metres to 5km heathland area.

Natural England advise that in order for an appropriate assessment to be able to conclude that there is no adverse effect on the integrity of the Dorset Heathlands it is necessary certain types of development, including new

[60] Available at: https://www.dorsetcouncil.gov.uk/documents/35024/309543/Dorset+Heathlands+2020-2025+SPD+Adopted.pdf/bda03d74-cbc9-57c9-b3be-6253ba2825fb

residential dwellings, require avoidance or mitigation measures to be implemented to allow development to be approved.

The mitigation element of the strategy is in two parts:

- Part 1: Strategic Access, Management and Monitoring (SAMM); and
- Part 2: Heathland Infrastructure Projects (HIPs).

SAMM focuses on wardening, raising awareness and monitoring the effectiveness of the strategy. SAMMs contributions secure the day-to-day costs of helping local people to behave in ways less harmful to the local heathlands they access. This is through raising awareness of the issues and value of the protected sites and includes (i) employing wardens to manage visitor pressures on the heathland; and (ii) delivering awareness and education programmes in local schools, on the heaths and through local communities. SAMMs also pay for the ongoing monitoring of a sample of heathland birds, visitor access patterns and the effects of new development and crucially whether this strategy is effective.

The SAMMs charge is calculated by dividing the total cost of providing SAMMs by the number of planned homes within the 5km heathland area for each respective Council over the period 2020-2025. This currently stands at £525 per house and £360 per flat.

Heathland Infrastructure Projects (HIPs) are physical infrastructure projects that provide facilities to attract people away from the protected heathland sites. SANGs (Suitable Alternative Natural Greenspaces) are the most significant element of provision, having a key role in providing an alternative destination to the Dorset Heathlands.

The SNP requires development at Land North of Prospect Way (Site Code 11) to provide SANGs, and the SNP contains policies for enhanced greenspace, recreational space and sports facilities SWAN6, SWAN7 and SWAN8.

Any additional residential development within 400m to 5km heathland area is likely to have a significant effect on the Dorset Heathlands either alone or in combination with other proposals. Therefore in accordance with the Habitats Regulations, the Councils will undertake a project level appropriate assessment when considering all planning applications where there is a net gain in homes within the 400 m to 5km heathland area. In addition, Policy SWAN9 seeks to protect the Dorset Heathlands and requires HRA of proposed development.

Any additional residential development within 400 metre to 5km heathland area is likely to have a significant effect on the Dorset Heathlands either alone or in combination with other proposals. Therefore in accordance with the Habitats Regulations, the Councils will undertake a project level appropriate assessment when considering all planning applications where there is a net gain in homes within the 400 metre to 5km heathland area.

Adoption of this strategic approach to mitigation rules out adverse effects on the integrity of the heathland Habitats Sites.

7.2.1.1 The Isle of Portland to Studland Cliffs SAC and St Albans Head to Durlston Head SAC

New housing and other development in Swanage has the potential to have an adverse effect upon the integrity of these coastal sites. The impacts of development on coastal sites tends to be less than that at heathland sites because the ecological features tend to be less sensitive to disturbance. Impacts from housing tend to be 'diluted' by large numbers of tourism visitors. In addition, there is often significant infrastructure in tourist centres to manage recreation. For example, the National Trust at Studland have sections of dunes fenced off to protect from trampling; at Durlston Country Park there is a visitor centre with a ranger team, education facilities and marked routes. People tend to keep their dogs on leads at coastal sites with cliffs.

The main housing sites for Swanage are set back from the coast by a minimum of around 400m. The SNP includes provision of alternative recreation areas in public parks and other greenspace.

Natural England condition monitoring [61]has identified that Unit 45 of the Isle of Portland to Studland Cliffs SAC has identified issues from trampling resulting in an assessment of Unfavourable-Recovering condition. This is at Portland Bill, a popular tourist attraction. Vegetation restoration works are in place to restore the vegetation.

The supplementary conservation objectives for the St Albans Head to Durlston SAC include a target to control and minimise human access to the cliffs. The supporting text suggests that at some locations access for mountaineering

[61] Designated Sites View

and coasteering may to the cliffs may be contributing to negative impacts. Such recreation use is tourist related rather than that which might be generated by housing growth in Swanage.

It is concluded that the active management and monitoring of these SAC, and the minor impact resulting from development in Swanage means that there will be no significant effect on the integrity of these Habitats Sites.

7.2.2 Poole Harbour SPA/Ramsar

Dorset Council adopted a SPD to deliver mitigation for the impacts of recreation at Poole Harbour This was adopted in 2020 and informed by a comprehensive evidence base that included bird surveys and visitor monitoring. It sets out a strategy to avoid adverse effects on the integrity of Poole Harbour. The mitigation will be provided through Poole Harbour Infrastructure Projects (PHIPs) and Strategic, Access Management and Monitoring (SAMM). In the Dorset Council area, both PHIPs and SAMMs will usually be secured through the payment of Community Infrastructure Levy (CIL).

Adoption of this strategic approach to mitigation rules out adverse effects on the integrity of Poole Harbour SPA/Ramsar

7.3 Nutrient Enrichment

Nutrient enrichment and recreational impacts are synergistic. Development close to heathland sites is likely to have the greatest impact, with development within 400m likely to have the greatest impact. **As such, the measures to be implemented above in respect of recreational pressure will be appropriate mitigation in respect of nutrient enrichment, and there will be no adverse effects on the integrity of any Habitats site.**

7.4 Noise and Visual Disturbance

None of the site allocations are within 400m of any Habitats site. With the exception of Land North of Prospect Way (Site Code 11) and Land off Ulwell Road (Site Code 13), all are redevelopment of previously developed sites some distance from any Habitats Site. The closest are site allocation 06 which is approximately 340m from the Isle of Purbeck to Studland Cliffs SAC, site allocation 13, approximately 400m from the Isle of Purbeck to Studland Cliffs SAC and Site allocation 03 which is approximately 400m from St Albans Head SAC.

As such, there is low potential for impacts related to water quality. Notwithstanding this, any potential impacts will be addressed through development specific mitigation in the event that the sites are taken forward for development.

This rules out the potential for adverse impacts on the integrity of the Habitats sites resulting from noise or visual disturbance.

8. Conclusion

It can be concluded that no adverse effect on the integrity of European sites will arise from the Swanage Neighbourhood Plan either alone or in combination with other plans and projects.

Appendix A Habitats Sites Details

St Albans Head to Durlston Head SAC

This site runs contiguously with the Isle of Portland to Studland Cliffs SAC, and together they form a single unit of principally hard cliffed coastline some 40 km in length that combines internationally important geological interest with a rich range of wildlife habitats. At this site the cliffs are formed of hard Jurassic limestones. The species-rich calcareous grasslands found along this coast support communities of species that have become scarce in the UK. Of particular note are the long-standing populations of early gentian Gentianella anglica numbering several thousands of plants. These are found in extensive species-rich examples of tor-grass Brachypodium pinnatum calcareous grassland which are equally important for the largest UK population of early spider-orchid Ophrys sphegodes. This species has declined very dramatically in the UK since the 1950s, in both population size and range. Townsend, a small satellite site, supports both these species within a matrix of calcareous grassland and scrub.

South Purbeck has a very long history of quarrying. Both Purbeck and Portland Stone were quarried from beneath the surface in galleried tunnels called quarrs. The landscape around much of this SAC was dominated by the entrances to the tunnels as well as the extensive areas of spoil which surrounded each quarry entrance. The industry ceased in the 1960s (switching to open cast quarrying) but the surviving underground galleries and associated quarry entrances now provide important winter roosting sites for bats, including the rare greater horseshoe bat Rhinolophus ferrum-equinum. The maritime vegetation of the cliff faces and former quarried ledges includes species such as goldensamphire Inula crithmoides, rock samphire Crithmum maritimum and sea spleenwort Asplenium marinum.

Qualifying Features

H1230 Vegetated sea cliffs of the Atlantic and Baltic coasts

H6210 Semi-natural dry grasslands and scrubland facies: on calcareous substrates (Festuco-Brometalia), (note that this includes the priority feature 'important orchid rich sites')

S1304 Greater horseshoe bat, Rhinolophus ferrumequinum

S1654 Early gentian, Gentianella anglica

Conservation Objectives

The site's conservation objectives apply to the site and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying features' listed above).

The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and 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 the qualifying species
- the structure and function (including typical species) of qualifying natural habitats
- the structure and function of the habitats of the qualifying species
- the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- the populations of each of the qualifying species
- the distribution of qualifying species within the site

Isle of Portland to Studland Cliffs SAC

The Isle of Portland to Studland Cliffs Special Area of Conservation (SAC) stretches for some 40 km along the coast of South Dorset (containing the St Albans Head to Durlston Head SAC).

The cliffs support species-rich calcareous grassland with particularly large populations of several species that are scarce in the UK such as wild cabbage Brassica oleracea var. oleracea, early spider-orchid Ophrys sphegodes and Nottingham catchfly Silene nutans. The endemic sea lavender Limonium recurvum ssp recurvum is locally frequent.

The Portland peninsula demonstrates clearly the contrast between an exposed western coast, with sheer rock faces and sparse maritime vegetation, and a more sheltered eastern side. On this sheltered coast and on the mainland cliffs east of White Nothe there are extensive slumped undercliffs and landslides with a mix of massive fallen boulders, grassland and scrub. The scrub contains a high proportion of wayfaring-tree Viburnum latana, while wood spurge Euphorbia amygdaloides occurs widely in the grassland. The open habitats that occur on sands and clays as a result of frequent landslips are an especially rich habitat for may localised invertebrate species. Calcareous boulders in this turf support important and restricted lichen and bryophyte assemblages.

Semi-natural dry grassland occurs in both inland and coastal situations on both chalk and limestone. The site contains extensive species-rich examples of tor-grass Brachypodium pinnatum grassland and smaller areas of sheep's-fescue - meadow oat-grass (Festuca ovina - Helictotrichon pratense) grassland occur on shallow soils

on steeper slopes. It also supports important long-standing populations of early gentian Gentianella anglica numbering several thousands of plants.

Qualifying Features

H1210 Annual vegetation of drift lines

H1230 Vegetated sea cliffs of the Atlantic and Baltic coasts

H6210 Semi-natural dry grasslands and scrubland facies: on calcareous substrates (Festuco-Brometalia), (note that this includes the priority feature 'important orchid rich sites')

S1654 Early gentian, Gentianella anglica

Conservation Objectives

The site's conservation objectives apply to the site and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying features' listed above).

The objectives are to ensure that, subject to natural change, the integrity of the site is maintained or restored as appropriate, and 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 the qualifying species
- the structure and function (including typical species) of qualifying natural habitats
- the structure and function of the habitats of the qualifying species
- the supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- the populations of each of the qualifying species
- the distribution of qualifying species within the site

Poole Harbour SPA/Ramsar

Poole Harbour is a large natural harbour comprising of extensive tidal mudflats, seagrass beds and saltmarsh, together with associated reedbed, freshwater marsh and wet grassland. It has a narrow entrance and a small tidal range and as a result, although classified as an estuary (several rivers flow into it), it has many of the qualities of a large lagoon. The north side is largely urbanised while the west and south side abut heath, mire or grassland. Extensive intertidal mudflats provide an important feeding habitat for overwintering waterbirds, while the fringing saltmarsh and reedbed provide roosting areas and feeding habitat for a variety of bird species. Ducks, grebes and cormorant feed and loaf over the harbour's shallow waters, with the ducks and grebes forming more compact roosts at night. The main areas of seagrass beds are in the north east of the harbour and provide a food source for dark-bellied brent goose as well as a supporting habitat for fish-eating species such as red-breasted merganser and goldeneye.

Brownsea Island lagoon is a particularly important feeding and roosting area for wintering birds, and in addition, it is a nesting site for internationally important numbers of common and Sandwich tern. Saltmarsh islands in the north west of the harbour are the main nesting sites for Mediterranean gull. A large dune slack lake within the Studland dunes is also included within the SPA due to its importance as a supporting feeding and roosting habitat to many of the SPA bird species. Areas outside the SPA contain important supporting habitats for the birds that use the site, including coastal grazing marsh and agricultural land.

Poole Harbour SPA was originally classified in 1999 for supporting qualifying numbers of non-breeding avocet, black-tailed godwit, shelduck, and breeding populations of common tern and Mediterranean gull. In 2017, the SPA was extended to incorporate subtidal, saltmarsh and wet grassland areas that support internationally important bird populations, and had three new species added that now exceed qualifying thresholds: breeding Sandwich tern, and non-breeding little egret and spoonbill.

Qualifying Features

The SPA is designated for[62]

<u>Qualifying Annex I species:</u>

- **Common tern *Sterna hirundo***
- **Sandwich tern *Sterna sandvicensis***
- **Mediterranean gull *Larus melanocephalus***
- **Little egret *Egretta garzetta***

[62] http://publications.naturalengland.org.uk/publication/6625771074355200

- **Spoonbill *Platalea leucorodia***
- **Pied avocet *Recurvirostra avosetta***

Regularly occurring migratory species:

- **Shelduck *Tadorna tadorna***
- **Black-tailed godwit *Limosa limosa islandica***

Assemblage qualification: during the non-breeding season the area supports dunlin *Calidris alpina*, great cormorant *Phalacracorax carbo*, dark-bellied brent goose *Branta bernicla bernicla*, teal *Anas crecca*, goldeneye *Bucephala clangula,* red-breasted merganser *Mergus serrator*, curlew *Numenius arquata,* spotted redshank *Tringa erythropus*, greenshank *Tringa nebularia*, redshank *Tringa totanus*, pochard *Aythya farina* and black-headed gull *Chroicocephalus ridibundus*, all of which are present in nationally important numbers.

The Ramsar is designated for[63]:

Criterion 1: The site is the best and largest example of a bar-built estuary with lagoonal characteristics (a natural harbour) in Britain.

Criterion 2: The site supports two species of nationally rare plant and one nationally rare alga. There are at least three British Red data book invertebrate species

Criterion 3: The site includes examples of natural habitat types of community interest - Mediterranean and thermos Atlantic halophilous scrubs, in this case dominated by *Suaeda vera*, as well as calcareous fens with *Cladium mariscus*. Transitions from saltmarsh through to peatland mires are of exceptional conservation importance as few such examples remain in Britain.

The site supports nationally important populations of breeding waterfowl including common tern and Mediterranean gull. Over winter the site also supports a nationally important population of avocet.

Criterion 5: Assemblages of international importance - species with peak counts in winter.

Current Pressures and Threats

1.2 The Site Improvement Plan[64] identifies the following pressures and threats to the SPA:

- Water pollution
- Air Pollution: impact of atmospheric nitrogen deposition
- Fisheries: commercial marine and estuarine
- Coastal squeeze
- Public access/ disturbance
- Deer

– **The Information Sheet on Ramsar Wetlands (RIS)[65] identifies the following adverse factors:**

- Eutrophication - Nutrient enrichment is an issue, compounded by the site's physical characteristic of poor flushing. This is evident from the extensive algal mats covering intertidal mudflats during the summer months.
- Introduction/invasion of non-native animal species

[63] https://jncc.gov.uk/jncc-assets/RIS/UK11054.pdf
[64] http://publications.naturalengland.org.uk/publication/6713862766198784
[65] https://jncc.gov.uk/jncc-assets/RIS/UK11054.pdf

Dorset Heaths (Purbeck & Wareham) & Studland Dunes SAC

This site, with the Dorset Heaths SAC, covers an extensive complex of heaths that form one of the best developed and most significant tracts of heathland in the lowlands of the UK. There are fine transitions between dry heath, wet heath and acid mire vegetation types, as well as a high diversity of associated habitats such as acid grassland, sand dune, acid oak woods, bog woodland, base-rich mires, fen-meadow, reed-swamp and small water bodies.

The dry heath occurs on very infertile soils and is dominated by heather *Calluna vulgaris* growing in association with bell heather *Erica cinerea*, gorse *Ulex europaeus* and dwarf gorse *U. minor*. These heaths are not diverse botanically but occasionally some nationally scarce plants occur, such as mossy stonecrop *Crassula tillaea*, which has a stronghold on the Dorset heathlands.

Typically the wet heaths occupy areas of impeded drainage on the lower sides of valleys and on areas of less steeply sloping ground over more impermeable soils. They are characterised by the dominance of cross-leaved heath *Erica tetralix*, heather, and purple moor-grass *Molinia caerulea,* often in association with the bog-moss Sphagnum compactum. Within this SAC the nationally rare Dorset heath *Erica ciliaris* (which readily hybridises with *E. tetralix*), occurs extensively and often in abundance, and this is its principal location in the UK.

The valley mires contain small pockets of wet woodland but most of these appear to be of recent origin. However, at Morden Bog a bog woodland stand is of ancient origin, as shown by its pollen record and old maps. The woodland is dominated by downy birch *Betula pubescens* with a ground flora consisting of greater tussock sedge *Carex paniculata* and purple moor-grass. There is a rich epiphytic lichen assemblage, again indicating the persistence of this area of bog woodland.

At Studland there is a large acidic dune system. The structure and function are well conserved with dune-building processes still active. Embryonic shifting dunes initiate the very clear successional sequence of dune communities and there are well-developed examples of both sand couch *Elytrigia juncea* and lyme-grass *Leymus arenarius* dominated communities. Shifting dunes form the next stage of the successional sequence and the seaward dune ridge supports marram *Ammophila arenaria* vegetation. There are transitions to embryonic dunes, and to decalcified fixed dunes and dune heath. The dune heath occupies a series of dune ridges, which have developed over a period of several hundred years. This dry open heath is especially important for sand lizards *Lacerta agilis.*

Acidic humid dune slack communities with a high-water table lie in the parallel hollows between the dune ridges. In these slacks, wet heath, acid mire and reedbeds have developed. Some areas are dominated by grey willow Salix cinerea and birch Betula sp. carr with the very local royal fern *Osmunda regalis* a conspicuous element. The dune slacks are linked to the Little Sea, which is a shallow lake of recent origin (<500 years old), formed as a large body of seawater became landlocked by the growing sand dunes (hence the name Little Sea). This water is now fresh and is replenished by acidic, nutrient-poor water draining off the adjacent heathland, which then flows through the dune slacks and into the sea.

To the north of the Purbeck chalk ridge and in places elsewhere, spring-fed water flushes the heathland wetlands. This base enrichment gives rise to mires characterised by the presence of black bog-rush *Schoenus nigricans* and species rich fen-meadows that conform to the purple moor-grass *Molinia caerulea* – meadow thistle *Cirsium dissectum* community. Near Poole Harbour a further type of wetland, saw sedge *Cladium mariscus* fen, occurs very locally.

The heathland wetlands together with numerous small water bodies form a stronghold for invertebrates, particularly dragonflies and damselflies (Odonata) such as small red damselfly *Ceriagrion tenellum* and southern damselfly *Coenagrion mercuriale*, some grasshoppers notably large marsh grasshopper *Stethophyma grossum*, butterflies and moths (Lepidoptera), beetles (Coleoptera) and spiders. Some of the ponds, particularly towards the edges of the heathland area where there is base enrichment of the groundwater, support populations of great crested newt *Triturus cristatus.*

Qualifying Features[66]

Qualifying Annex I habitats:

[66] http://publications.naturalengland.org.uk/publication/5081598194089984

- Alkaline fens. (calcium-rich springwater-fed fens)
- Atlantic decalcified fixed dunes (*Calluno-Ulicetea*). (Coastal dune heathland)*
- Bog woodland*
- Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae.* (Calcium-rich fen dominated by great fen sedge (saw sedge))*
- Depressions on peat substrates of the *Rhynchosporion*
- Embryonic shifting dunes
- European dry heaths
- Humid dune slacks
- *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*). (Purple moor-grass meadows)
- Northern Atlantic wet heaths with *Erica tetralix.* (Wet heathland with cross-leaved heath)
- Old acidophilous oak woods with *Quercus robur* on sandy plains. (Dry oak-dominated woodland)
- Oligotrophic waters containing very few minerals of sandy plains: *Littorelletalia uniflorae.* (Nutrient-poor shallow waters with aquatic vegetation on sandy plains)
- Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes). (Shifting dunes with marram)
- Temperate Atlantic wet heaths with *Erica ciliaris* and *Erica tetralix*. (Wet heathland with Dorset heath and cross-leaved heath)*

Annex I priority habitats are denoted by an asterisk (*).

Qualifying Annex II species:

- Southern damselfly *Coenagrion mercuriale*
- Great crested newt *Triturus cristatus*

Conservation Objectives[67]

"With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed above), and subject to natural change;

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."*

[67] http://publications.naturalengland.org.uk/publication/5081598194089984

Current Pressures and Threats

The Site Improvement Plan[68] identifies the following pressures and threats to the SAC:

- Inappropriate scrub control
- Public access/ disturbance
- Undergrazing
- Forestry and woodland management
- Drainage
- Water pollution
- Invasive species
- Habitat fragmentation
- Conflicting conservation objectives
- Wildfire/ arson
- Air Pollution: impact of atmospheric nitrogen deposition
- Deer

Dorset Heaths SAC

The site description is the same as for the Dorset Heaths (Purbeck & Wareham) & Studland Dunes SAC, but with the absence of sand dune habitats.

Qualifying Features[69]

Qualifying Annex I habitats:

- Alkaline fens. (Calcium-rich spring-water-fed fens)
- Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*. (Calcium-rich fen dominated by great fen sedge (saw sedge))*
- Depressions on peat substrates of the *Rhynchosporion*
- European dry heaths
- *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*). (Purple moor-grass meadows)
- Northern Atlantic wet heaths with *Erica tetralix*. (Wet heathland with cross-leaved heath)
- Old acidophilous oak woods with *Quercus robur* on sandy plains. (Dry oak-dominated woodland)

Annex I priority habitats are denoted by an asterisk (*).

Qualifying Annex II species:

- Great crested newt *Triturus cristatus*
- Southern damselfly *Coenagrion mercuriale*

Conservation Objectives[70]

"With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed above), and subject to natural change;

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."

Current Pressures and Threats

The Site Improvement Plan is the same as that for the Dorset Heaths (Purbeck & Wareham) & Studland Dunes SAC and the pressures and threats listed at 3.20 are the same for this SAC.

Dorset Heathlands SPA/ Ramsar

Introduction

The Dorset Heathlands comprises a suite of heathland sites at the western edge of the Hampshire Basin. The SPA encompasses the fragmented remains of once extensive tracts of dry heath, wet heath and valley mire which were originally only divided by river valleys and extended across the sands, gravels, clays and peatlands of this area.

Qualifying Features

The SPA is designated for[71]:

Qualifying Annex I species:

- Dartford warbler *Sylvia undata*
- Nightjar *Caprimulgus europeaus*
- Woodlark *Lulla arborea*
- Hen harrier *Circus cyaneus*
- Merlin *Falco columbarius*

The Ramsar is designated for[72]:

Criterion 1: Contains particularly good examples of (i) northern Atlantic wet heaths with cross-leaved heath *Erica tetralix* and (ii) acid mire with *Rhynchosporion.*

Contains largest example in Britain of southern Atlantic wet heaths with Dorset heath *Erica ciliaris* and cross-leaved heath *Erica tetralix.*

Criterion 2: Supports 1 nationally rare and 13 nationally scarce wetland plant species, and at least 28 nationally rare wetland invertebrate species.

[68] http://publications.naturalengland.org.uk/publication/5181909839642624
[69]
[70] http://publications.naturalengland.org.uk/publication/5711678738006016
[71] http://publications.naturalengland.org.uk/publication/5808199001178112
[72] https://jncc.gov.uk/jncc-assets/RIS/UK11021.pdf

Criterion 3: Has a high species richness and high ecological diversity of wetland habitat types and transitions and lies in one of the most biologically rich wetland areas of lowland Britain, being continuous with three other Ramsar sites: Poole Harbour, Avon Valley and The New Forest.

Conservation Objectives[73]

"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 above), and subject to natural change;

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."*

Current Pressures and Threats

The Site Improvement Plan[74] identifies the following pressures and threats to the SPA:

- Inappropriate scrub control
- Public access/ disturbance
- Forestry and woodland management
- Invasive species
- Habitat fragmentation
- Wildfire/ arson

The RIS[75] identifies the following adverse factors:

- Acid rain - modelling by the relevant air quality authority indicates that the average or minimum deposition from airborne SO_x and NO_x exceed the maximum critical load for acidity on at least part of the site.
- Pollution – unspecified.

Solent and Dorset Coast SPA

The Solent and Dorset Coast Special Protection Area (SPA) covers 88,980.55 ha and stretches from Worbarrow Bay in Dorset to Littlehampton in West Sussex incorporating most of the Hampshire and Isle of Wight coastline and adjacent offshore areas. The SPA overlaps and shares boundaries with many other designated sites within the Solent, Southampton Water, Portsmouth Harbour, Christchurch Harbour, Poole Bay and West Sussex. These areas **support important** breeding colonies of terns at existing SPAs which include Poole Harbour SPA, Solent & Southampton Water SPA, Chichester & Langstone Harbours SPA and Pagham Harbour SPA.

The Solent and Dorset Coast SPA protects the surrounding waters of these sites as they are used by the terns for foraging and maintenance activities, such as bathing and preening. The SPA supports over 12% of UK's tern breeding population, specifically, 4.92% of the common tern (*Sterna hirundo*), 4.01% of sandwich tern (*Sterna sandvicensis*), and 3.31% of little tern (*Sternula albifrons*) populations.

Qualifying Features

The SPA is designated for:

Common tern, Sterna hirundo - breeding

[73] http://publications.naturalengland.org.uk/publication/5808199001178112
[74] http://publications.naturalengland.org.uk/publication/5181909839642624
[75] https://jncc.gov.uk/jncc-assets/RIS/UK11021.pdf

Little tern, Sterna albifrons - breeding
Sandwich tern, Thalasseus sandvicensis – breeding

Studland to Portland SAC

The Studland to Portland SAC lies off the Dorset coast, and is comprised of two sections; the Studland Bay to Ringstead Bay reefs and the Portland reefs. The site contains a diverse range of reef habitats, which exhibit a large amount of geological variety and biological diversity.

The Studland Bay to Ringstead Bay section contains numerous geological features of interest including: exposed soft chalk bedrock around Ballard Cliffs in the east and Ringstead Bay in the west; limestone ledges protruding from shelly gravel at Worbarrow Bay, and shale reefs extending from Kimmeridge. Other areas of particular interest that support the site's diverse marine life include: Evan's Rock; St. Albans ledge; the limestone blocks of "seabed caves"; and Lulworth Banks. Within this section of the site seagrass beds, maerl beds, and *Ampelisca* mats have been recorded, with *Sabellaria* reefs having been recorded in the past.

The Portland Reefs section surrounds Portland Bill and is characterised by flat bedrock, limestone ledges, large boulders and cobbles. The boulders and ledges occur where the eroded coastal cliffs of Portland extend underwater. South of Portland Bill, a steep drop off has been formed which runs south west of the Bill and extends to depths of over 60m. This mosaic of reef habitats are exposed to extremely strong tides, currents and wave action, and support a diverse range of marine life. Mussel (*Mytilus edulis*) beds are found to occur on bedrock off the eastern side of Portland Bill, and also in the infralittoral zones of the eastern reefs amongst kelp forests.

Qualifying Features:
This is a marine SAC and is designated for
Reefs