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Sunderland City Council Core Strategy and Development Plan

Report to inform Habitat Regulations Assessment

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Contents

1 Summary

1.1 Sunderland City Council is preparing a new Local Plan and this will set out the long-term vision for development in Sunderland over the period up to 2033. The Local Plan, which is currently being prepared, will consist of three parts:

- Part One – Core Strategy & Development Plan (CSDP)
- Part Two – Allocations and Designations Plan
- Part Three: International Advanced Manufacturing Park (IAMP) Area Action Plan (AAP) 2017-2037

1.2 Sunderland City Council is the 'competent authority', as defined under the Conservation of Habitats and Species Regulations 2010 (the Habitats Regulations), and as such it is required to ensure that the Core Strategy complies with the requirements of the Habitats Regulations. This involves undertaking a Habitats Regulations Assessment (HRA), the purpose of which is to assess the possible effects of the Core Strategy on the nature conservation interests of sites designated under the Habitats and Wild Birds Directives.

1.3 The purpose of this report is to inform the HRA process, i.e. to identify whether the proposed objectives, proposals and policies set out within the emerging Core Strategy, alone or in combination with other plans and projects, are likely to have an adverse effect on the integrity of any designated sites of European importance, i.e. Special Areas of Conservation, Special Protection Areas and Ramsar sites.

1.4 This HRA is specifically to cover the policies contained within the CSDP. A separate HRA Screening Report has been published for the IAMP AAP and a standalone HRA will be prepared for the Site Allocations and Designations Plan.

1.5 There are two European sites that are located within the boundary of the Sunderland City Council administrative area. Both of these sites cover sections of the coast that extend into neighbouring Authority areas. The sites are:

- Durham Coast SAC; and
- Northumbria Coast SPA and Ramsar site.

1.6 Consideration has also been given to the effects of the CSDP on Castle Eden Dene SAC, which is located outside the Sunderland City Council administrative area but close enough that impact could potentially occur.

1.7 Potential impact pathways that are considered to be relevant for the purposes of this assessment are as follows:

- Recreation: Increased recreational pressure including disturbance from recreational activities.
- Urban effects: Increased effects of urbanisation including the introduction of invasive species and predation from domestic animals.
- Coastal squeeze: Exacerbation of coastal squeeze due to increased requirement for maintenance of sea defences.
- Water quality and resources: Changes in surface and groundwater quality and availability.
- Changes in air quality.

1.8 Consideration of these impact pathways has led to the following policies being given further consideration within the Habitats Regulations Assessment, as it needed to be determined whether adverse effects on the integrity of the European sites could be ruled out following analysis of available information and evidence:

- Policy SA3: Housing Release Sites
- Policy HWS3: Culture, Leisure and Tourism
- Policy H5: Student Accommodation
- Policy H6: Travelling Showpeople, Gypsies and Travellers
- Policy H8: Housing in Multiple Occupation
- Policy H9: Backland and Tandem Development
- Policy EP1: Economic Growth
- Policy E7: Biodiversity and Geodiversity
- Policy CC4: Port of Sunderland

1.9 The assessment has concluded that development within 6 km of the European sites that will result in an increase in the local population, has the potential to result in increased visitor pressure, which may in turn result in increased recreational disturbance of birds.

1.10 It is proposed to mitigate impacts by adopting a suite of measures that can be broadly categorised as:

- Provision of Areas of Additional Natural Greenspace (AANG);
- Strategic Access Management and Monitoring (SAMM).

1.11 In general, the costs of implementation and maintenance of AANGs and SAMM will be split proportionately amongst the developments and financial contributions sought that will cover both elements. The costs of providing AANG, green links and other green infrastructure are to be met by developers. This will need to include the on-going maintenance cost for the AANG once provided. It is proposed that a commuted sum will be paid to the Council by each developer to cover future AANG maintenance for a 20 year period, after which the Council will take on maintenance of the AANG in perpetuity. Funding for Strategic Access Management and Monitoring will be obtained by securing Section 106 contributions from developers of housing sites that are too small to provide significant greenspace within them.

1.12 When the proposed mitigation measures are adopted and the residual effects re-assessed against the conservation objectives for each site, it is concluded that the Core Strategy will not have an adverse effect on the integrity of the Northumbria Coast SPA/Ramsar sites or Durham Coast SAC, either alone or in-combination with other plans and projects.

2 Introduction

Purpose of Report

2.1 The Council is preparing a new Local Plan and this will set out the long-term vision for development in Sunderland over the period up to 2033. The geographic area covered by the Core Strategy is shown on Figure 1 in Section 13.

2.2 Sunderland City Council is the 'competent authority', as defined under the Conservation of Habitats and Species Regulations 2010 (the Habitats Regulations), and as such it is required to ensure that the Core Strategy complies with the requirements of the Habitats Regulations. This involves undertaking a Habitats Regulations Assessment (HRA), the purpose of which is to assess the possible effects of the Core Strategy on the nature conservation interests of sites designated under the Habitats and Wild Birds Directives. These sites consist of Special Areas of Conservation and Special Protection Areas, and also include Ramsar Sites (collectively referred to as European sites). The HRA process is a key part of the preparation of the Core Strategy as objectives, proposals and policies in the plan can potentially affect European sites.

2.3 The purpose of this report is to inform the HRA process, i.e. to identify whether the proposed objectives, proposals and policies set out within the emerging Core Strategy, alone or in combination with other plans and projects, are likely to have an adverse effect on the integrity of any designated sites of European importance, i.e. Special Areas of Conservation, Special Protection Areas and Ramsar sites. The requirement to carry out this assessment is set out within the Habitats Regulations.

Local Plan Process

2.4 Sunderland's Local Plan, which is currently being prepared, will consist of three parts:

- **Part One – Core Strategy & Development Plan (CSDP):** This will set out an overarching strategy for future change and growth in Sunderland and it includes detailed development management policies. It is a strategic plan which covers the period 2015 to 2033. The CSDP will cover the whole of the area within Sunderland's administrative boundary. Once adopted, the CSDP will become part of Sunderland's statutory planning framework, guiding decisions on all development and regeneration activity over the period to 2033. The CSDP will replace some of the saved policies of the Sunderland Unitary Development Plan (UDP) 1998 and UDP Alteration No.2 (2007), which covers the Central Sunderland area. Some saved policies will continue to be used in the determination of planning applications until such time that they are replaced by the Local Plan Part 2: Allocations and Designations Plan.
- **Part Two – Allocations and Designations Plan:** This will set out site-specific policies for development, protection, and conservation of land in Sunderland in order to deliver the overall strategy set out within the CSDP.
- **Part Three: International Advanced Manufacturing Park (IAMP) Area Action Plan (AAP) 2017-2037:** This will set out site-specific policies for the delivery of a large advanced manufacturing park on land to the north of the existing Nissan car manufacturing plant. Sunderland City Council is working jointly with South Tyneside Council on the preparation of the AAP, as the cross-boundary site is located within the administrative areas of both authorities. Planning applications within the AAP boundary will be primarily assessed against the policies within the IAMP AAP. However, where there are no specific relevant policies contained within the AAP, policies within the CSDP will apply.

2.5 This HRA is specifically to cover the policies contained within the CSDP. A separate HRA Screening Report has been published for the IAMP AAP and a standalone HRA will be prepared for the Site Allocations and Designations Plan.

2.6 The Core Strategy will provide the overarching policy framework to guide the future development within the City of Sunderland over the next 18 years (2015-2033). Work on the Core Strategy has been underway for some time. Consultation on issues and options for the City took place in late 2005 and this was used to inform the subsequent Core Strategy Preferred Options draft, which was published for public consultation, the period for which took place between December 2007 and February 2008.

2.7 In September 2009 the Council carried out a public consultation on its Alternative Approaches and in August 2013 the Council published its draft Core Strategy and Development Management Policies for consultation.

2.8 New developments and new opportunities within the City resulted in a need to review and update the Core Strategy. New evidence on the City's population has also been prepared to support this review, and this evidence has been used to inform a range of growth options that have been published for consultation.

Reference Documents

2.9 This HRA report builds upon previous HRA reports that have been completed by consultants on behalf of Sunderland City Council as part of the Local Plan process. In particular the following reports have been considered:

- URS (2013). City of Sunderland LDF Core Strategy - Draft Revised Options. Habitat Regulations Appraisal: Screening Report. Published July 2013.
- URS (2015). South Sunderland Growth Area SPD: Appropriate Assessment. Published May 2015.
- Aecom (2016). Habitats Regulations Screening Assessment to Support Sunderland City Council's Core Strategy Growth Options 2016. Published March 2016.
- Sunderland City Council (2015). Habitats Regulations Assessment Screening Report. Draft Interim Student Accommodation Policy. Published March 2015.

2.10 Consideration has also been given to the work undertaken by neighbouring authorities in support of their Local Plan preparation. This includes HRA that has been undertaken for key documents that have been prepared in support of each Local Plan.

2.11 Sunderland City Council has also published an extensive range of documents to support the Local Plan process, and a number of these have been consulted to inform the HRA where relevant to do so. The following documents have been considered during the assessment:

- Core Strategy and Development Plan Draft Consultation Document (2017)
- Sunderland Growth Options consultation documents (2016)
- South Sunderland Growth Area draft SPD (2016)
- Sunderland City Council Strategic Housing Land Availability Assessment (SHLAA) Draft for Consultation (2016)
- Sunderland Employment Land Review. Final Report, 9 March 2016
- Employment Land Review Post EU Referendum Forecasting Analysis (2017)
- Sunderland Greenspace Audit and Report (2012)
- Green infrastructure strategy framework Report (2011)
- Sunderland City Council Local Flood Risk Management Strategy (2016)
- South Tyneside Local Development Framework SPD 3: Green Infrastructure Strategy, February 2013
- Port of Sunderland Concept Plan (2006)

Report Structure

2.12 This report documents the process, findings and recommendations to inform the HRA for the Sunderland Core Strategy and Development Plan. It identifies, analyses and quantifies (where possible) potential negative impacts on the relevant European sites, as well as identifying aspects of the Core Strategy where no impacts are likely. It presents measures to avoid or reduce these effects to the point at which they are no longer significant, either alone or in combination with other plans and projects.

2.13 Chapter One: provides a summary of the outcomes of the Habitats Regulations Assessment.

2.14 Chapter Two: sets out the purpose of the report and provides an overview of the Local Plan process;

2.15 Chapter Three: describes the Habitats Regulations Assessment process;

2.16 Chapter Four: identifies the European sites that are receptors of the likely significant effects of the Core Strategy, together with ecological information about these sites;

2.17 Chapter Five: sets out the review of the screening stage of HRA and identifies those objectives, proposals and policies that have be taken through to the appropriate assessment;

2.18 Chapter Six: identifies the underlying trends that have been considered when establishing the baseline that has been used for the assessment;

2.19 Chapter Seven: sets out the results of the appropriate assessment focussing on those aspects of the Core Strategy that have the potential to impact on European sites;

2.20 Chapter Eight: describes the measures that are proposed to mitigate any impacts on European sites;

2.21 Chapter Nine: sets out how the proposed mitigation measures will be delivered, including the use of monitoring to identify any emerging issues.

3 Habitats Regulations Assessment

Legislation

3.1 The Conservation of Habitats and Species Regulations 2010, as amended, referred to as the 'Habitats Regulations,' transpose the requirements of the European Birds and Habitats Directives[1] into UK legislation. The Birds Directive aims to protect rare and vulnerable birds and the habitats that they depend upon and this is achieved in part through the classification of Special Protection Areas (SPAs).

3.2 The Habitats Directive aims to protect plants, habitats and animals other than birds, and this is achieved in part through the creation of Special Areas of Conservation (SACs). Article 6(1) and (2) of the Habitats Directive require that Member States establish management measures for these areas, to avoid deterioration of their ecological interest. SPAs and SACs include European Marine Sites, which are designated sites below Mean High Water.

3.3 The UK is also a contracting party to the Ramsar Convention[2], which seeks to protect wetlands of international importance, especially those wetlands utilised as waterfowl habitat. It is UK Government policy (in England this is identified within the National Planning Policy Framework) that all competent authorities should treat Ramsar sites similarly as if they are fully designated European sites.

3.4 Collectively, all formally proposed and fully classified or designated SPAs and SACs, and all formally proposed or listed Ramsar sites form a pan-European Union network of protected areas known as Natura 2000. These are referred to in this report as European sites[3], and this term has been adopted throughout this report.

Habitats Regulations Assessment Process

3.5 The requirements of the Habitats Regulations with regard to the implications of plans or projects are set out within Part 6 'Assessment of Plans and Projects' and specifically Regulation 61. Chapter 8 of the Habitats Regulations sets out the requirements with regard to land use plans within Regulation 102 (which apply the provisions of Article 6(3) and (4) of the Habitats Directive – see Appendix 1). The step-based approach implicit within these two regulations is referred to as 'Habitats Regulations Assessment', which is the term that has been used throughout this report.

3.6 It is incumbent on any public body (referred to as a competent authority within the Habitats Regulations) to carry out a Habitats Regulations Assessment where they are proposing to carry out a project, implement a plan or authorise another party to carry out a plan or project. Competent authorities are required to record the process undertaken, ensuring that there will be no adverse effects on the integrity of a European site as a result of a plan or project.

3.7 The Habitats Regulations are applicable to the preparation and adoption of a Local Plan (and its component documents) by the provisions of Regulations 102 to 105. In order to ensure that the Core Strategy is compliant with the requirements of the Habitats Regulations, Sunderland City Council appointed BSG Ecology to carry out analysis and reporting to inform the Habitats Regulations Assessment.

[1] Council Directive on the conservation of natural habitats and of wild fauna and flora of 21st May 1992 (92/43/EEC) and Council Directive on the conservation of wild birds of 2nd April 1979 (70/409/EEC) consolidated by the Birds Directive 2009 (2009/147/EC).
[2] Convention on wetlands of international importance especially as waterfowl habitat, Ramsar, Iran, 2/2/71 as amended by the Paris protocol of 3/12/92 and the Regina amendments adopted at the extraordinary conference of contracting parties at Regina, Saskatchewan, Canada 28/5 – 3/6/87, most commonly referred to as the 'Ramsar Convention.'
[3] Tyldesley, D. and Chapman, C., (2013) The Habitats Regulations Assessment Handbook, September 2013 2013 edition UK: DTA Publications Limited

3.8 Sunderland City Council is responsible for both the Local Plan and the HRA assessment because it is the plan making body and competent authority. Sunderland City Council will use this report to inform their formal consideration, conclusion and recording of the outcomes of the HRA process.

Assessment Stages

3.9 The European Commission has developed guidance in relation to Articles 6(3) and 6(4) of the Habitats Directive[4], and this recommends a four stage approach to addressing the requirements of these Articles. Taking into account this guidance the following assessment methodology has been adopted to meet the requirements of the Habitats Directive:

Stage 1 – Screening

3.10 This stage identifies the likely effects of the Core Strategy on any European site, either alone or in combination with other plans or projects. Specifically this stage considers whether these effects are likely to be significant with regard to the integrity of the site. The Core Strategy will require 'appropriate assessment' if it is considered that any aspect of it will have a significant effect on any European site.

3.11 Stage 1 can be sub-divided as follows:

- Stage 1A: The identification of those European sites that are relevant to the assessment, which may include sites located within the plan area but may also include sites located in neighbouring authority areas. This process also includes the analysis of information relating to the European sites, in particular the reasons for their designation, factors affecting their integrity and trends affecting them.
- Stage 1B: The identification of underlying trends, i.e. external influences such as climate change, which could affect the integrity of a European site.
- Stage 1C: The analysis of the Core Strategy and its incorporated objectives, proposals and policies to determine whether they are likely to have a significant effect on the integrity of any European site. This part of the process also includes the examination of options and alternatives that avoid or reduce the identified effects.
- Stage 1D: The identification of other plans and projects that, when considered in-combination with the Core Strategy, are likely to result in significant effects.

Stage 2 – Appropriate Assessment

3.12 If it is considered that a plan or project is likely to have a significant effect on the integrity of a European site, the requirements of Stage 2 are triggered. This stage considers the impacts of the Core Strategy on the integrity of a European site, alone or in combination with other plans or projects. The assessment should consider the implications for the European site in view of the site's conservation objectives. If adverse impacts are identified, this assessment should also consider measures to mitigate the identified impacts.

3.13 If necessary, modifications to those proposals or policies are identified to avoid any adverse effects on site integrity. If mitigation is not possible and adverse effects on a European site's integrity remain, the process must proceed to Stage 3.

Stage 3 – Assessment of alternative solutions

3.14 If adverse impacts are predicted and it is not possible to fully mitigate those impacts, this stage examines alternative ways of achieving the objectives of the plan or project that avoid adverse impacts on the integrity of a Natura 2000 site.

[4] European Commission (2001). Assessment of plans and projects significantly effecting Natura 2000 site. Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC. Published November 2001.

Stage 4 – Assessment where no alternative solutions exist and where adverse impacts remain

3.15 This stage assesses compensatory measures where it is deemed that the project or plan should proceed for Imperative Reasons of Overriding Public Interest (IROPI).

3.16 Within these various stages the Habitats Directive promotes the adoption of a hierarchy of avoidance followed by mitigation and ultimately compensation. Consequently the first step is to ensure that the plan and the policies presented within it avoid negative impacts on European sites. If potential negative impacts are identified and avoidance is not feasible, then mitigation measures need to be applied such that no adverse effects on the integrity of European sites remain.

3.17 If impacts cannot be fully mitigated then the policy should be rejected or taken forward to the final stage, i.e. assessment of compensatory measures where it is deemed that the project or plan should proceed for Imperative Reasons of Overriding Public Interest (IROPI). Current guidance (Scott Wilson *et al*, 2006[5]) is that stages 3 and 4 should be avoided as there will almost always be an alternative and IROPI is extremely difficult to justify in the majority of cases.

3.18 Table 1 summarises the detail and legislative context for the four HRA stages. In subsequent sections further detail is provided about the method that has been adopted when completing Stages 1 and 2.

Table 1: Stages in the Habitats Regulations Assessment process

Stage	Description	Legislative Context
Stage 1: Screening	Assessment of whether a plan or project, either alone or in combination with other plans or projects, is likely to have a significant effect on a Nature 2000 site.	Article 6(3) of the Habitats Directive Regulation 61(1) of the Habitats Regulations
	Stage 1A: The identification of European sites that are relevant to the assessment.	
	Stage 1B: The identification of underlying trends.	
	Stage 1C: The analysis of the Core Strategy and its incorporated objectives, proposals and policies to determine whether they are likely to have a significant effect on the integrity of any European site.	
	Stage 1D: The identification of other plans and projects that, when considered in-combination with the Core Strategy, are likely to result in significant effects.	
Stage 2: Appropriate Assessment	Consider the impacts of the Core Strategy on the integrity of a European site, alone or in combination with other plans or projects and with reference to the site's conservation objectives. Consider measures to mitigate the identified impacts. Prepare an Appropriate Assessment Report for consultation with key stakeholders including Natural England.	

[5] Scott Wilson, Levett-Therivel Sustainability Consultants, Treweek Environmental Consultants and Land Use Consultants (2006). Appropriate assessment of plans. Published September 2006.

Stage	Description	Legislative Context
Stage 3: Assessment of alternative solutions	Re-assessing alternatives if effective mitigation proves impossible and develop / select a different alternative that does not harm site integrity. If no such alternatives exist the process continues to Stage 4.	
Stage 4: Assessment where no alternative solutions exist and where adverse impacts remain	At this stage, plans which, after mitigation still have an adverse effect on the site(s) integrity should be dropped. Assessing whether a plan can be passed justified by 'imperative reasons of overriding public interest' (IROPI) or permitted on the grounds of human health, public safety or primary beneficial consequences for the environment.	Article 6(4) of the Habitats Directive Regulation 62 of the Habitats Regulations

Guidance on Procedure and Method

3.19 This report has referred to the following published guidance and good practice:

- Department for Environment, Food and Rural Affairs, 2012, The Habitats and Wild Birds Directives in England and its seas: Core guidance for developers, regulations & land/marine managers (draft for public consultation);
- Office of the Deputy Prime Minister Circular 6/2005, (Defra Circular 1/2005), Biodiversity and Geological Conservation: Statutory obligations and their impact within the planning system (although note that this will shortly be replaced with National Planning Practice Guidance to support the NPPF);
- RSPB, 2007, The Appropriate Assessment of Spatial Plans in England: A guide to why, when and how to do it.
- Guidance on the Habitats Regulations Assessment of plans published by the Countryside Council for Wales[6] and Scottish Natural Heritage in association with the Scottish Government[7], (these methodologies are considered to be the most up-to-date and Natural England have not formally released equivalent guidance for English Planning Authorities).

3.20 This advice is complemented by guidance that is published and updated on a regular basis by David Tyldesley Associates (DTA[8]).

3.21 The guidance does not define the method for undertaking or recording Habitats Regulations Assessment but notes that the adopted method must be appropriate to its purpose under the Habitats Directive and Habitats Regulations, i.e. an 'appropriate assessment'.

[6] Guidance for Plan Making Authorities in Wales: The Appraisal of Plans under the Habitats Directive at http://www.ccgc.gov.uk/landscape--wildlife/managing-land-and-sea/environmental-assessment/habitats-regulations-assessmen.aspx.
[7] Habitats Regulations Appraisal of Plans: guide for plan making bodies in Scotland at http://www.snh.gov.uk/policy-and-guidance/guidance-documents/document/?category_code=Guidance&topic_id=1472
[8] Tyldesley, D. and Chapman, C., (2013) The Habitats Regulations Assessment Handbook, 2013 edition UK: DTA Publications Limited. BSG Ecology is an active subscription holder for updates to the handbook and receipt of the quarterly journal.

Scope of Assessment

3.22 An important part of the HRA process is ensuring that Natural England is consulted to ensure that the scope of the assessment is appropriate for the purposes of discharging the duties set out within the Conservation of Habitats and Species Regulations 2010 (as amended). HRA is an iterative process that aims to influence the development of a plan or project so as to ensure the ecological integrity of affected European sites is maintained.

3.23 This report follows on from assessments that have previously been prepared for the Core Strategy Draft Revised Options (URS, 2013), South Sunderland Growth Strategy SPD (URS, 2015) and the Core Strategy Growth Options (Aecom, 2016).

3.24 Natural England responded to the Core Strategy Growth Options HRA on 1st July 2016 noting that 'Natural England concurs with the conclusions of this report, namely that there are likely significant effects (LSEs) for Northumbria Coast Special Protection Area (SPA)/Ramsar site/potential SPA in terms of increased recreational pressure and on Durham Coast Special Area of Conservation (SAC) in terms of changes in air quality, which will need to be taken forward to the next stage of the HRA, the Appropriate Assessment. We also advise that LSEs for recreational pressure on Durham Coast SAC are assessed in more detail'.

3.25 Natural England also noted that the core catchment for visitors had been defined as being within 6 km from the Sunderland Coast, but that to capture 75% of visitors, this core catchment would have to be expanded to 8 km. The fact that this had not been done was highlighted as a shortcoming.

3.26 URS (2015) report that Natural England was consulted on a number of occasions during the preparation of the HRA for the South Sunderland Growth Strategy SPD, and these can be summarised as follows:

3.27 26th October 2012 – Natural England provided a response to the HRA screening of SSGA SPD, and highlighted increased recreational disturbance of breeding birds (little tern) and wintering birds (turnstone and sandpiper), erosion of sea cliffs and habitat loss as areas of concern;

3.28 1st May 2014 – Natural England provided a further response to the HRA screening report for SSGA SPD, during which they noted that the Durham County Plan HRA found that the significant majority of visitors to the coast came from within 6 km, and advised that the Appropriate Assessment will require a robust assessment of the effectiveness and deliverability of proposed mitigation to avoid adverse effects;

3.29 20th October 2014 – Natural England responded to a proposed mitigation spreadsheet, noting that the HRA must determine that mitigation will be effective without relying on monitoring;

3.30 In 2014, additional consultations were held between SCC and Natural England which confirmed that a 6 km catchment for visitor pressure would be considered appropriate.

3.31 1st July 2016 – Natural England responded to the HRA for the Core Strategy Growth Options (Aecom, 2016), within which they provided advice on the scope of the assessment of water quality, air quality impacts, trampling and nutrient enrichment. It was also stressed that it is important to apply the precautionary principle at relevant stages of the HRA process.

3.32 These comments have been referred to within this assessment.

4 Identification of Relevant European Sites

Scope of the assessment

4.1 Stage 1 (see Table 1) of the HRA process requires the identification of European sites that could potentially be affected by implementation of the Core Strategy, either alone or in combination with other plans and projects. It also involves scoping out sites that do not require any further consideration together with a clear rationale for doing so. This section of the report also includes collation of relevant data on the qualifying features of the selected European sites, including reference to each site's Conservation Objectives.

4.2 For the purposes of this report European sites include:

- Special Areas of Conservation (SACs) and candidate Special Areas of Conservation (cSACs) [designated under the EC Habitats Directive];
- Special Protection Areas (SPAs) and potential Special Protection Areas (pSPAs) [classified under the EC Birds Directive 1979, 79/409/EEC].
- Ramsar sites (designated under the Convention on Wetlands of International Importance, UNESCO, 1971).

4.3 There are two European sites that are located within the boundary of the Sunderland City Council administrative area. Both of these sites cover sections of the coast that extend into neighbouring Authority areas. The sites are:

- Durham Coast SAC; and
- Northumbria Coast SPA and Ramsar site.

4.4 The boundaries of the designated sites are shown on Figure 2 in Section 13. The Northumbria Coast SPA and Ramsar site share the same boundary and qualifying interest features (but the numbers of qualifying birds are different). Summary details of the European sites are provided below and their Conservation Objectives are presented in Appendix 2.

4.5 It is also possible that implementation of the Sunderland City Council Core Strategy could result in impacts on European sites that fall outside the City boundary. In order to decide which European sites need to be considered within this assessment it is important to identify the mechanisms by which the Core Strategy could potentially impact on any European site.

4.6 A previous HRA of the Sunderland City Council Core Strategy Growth Options (Aecom, 2016) identified the following potential impact pathways, which are also considered to be relevant in the context of this assessment:

- Increased recreational pressure – including disturbance from recreational activities.
- Increased extent of urbanisation - including the introduction of invasive species and predation from domestic animals.
- Exacerbation of coastal squeeze – due to increased requirement for maintenance of sea defences.
- Changes in water quality.
- Changes in air quality.

4.7 Taking into account potential impact pathways, the following European site located outside the Sunderland City Council boundary has also been considered: Castle Eden Dene SAC, the nearest part of which is located 7.5 km to the south.

4.8 Castle Eden Dene SAC, qualifies under Council Directive (92/43/EEC) by supporting the following habitats listed on Annex I of the Directive: *Taxus baccata* woods of the British Isles. Castle Eden Dene represents the most extensive northerly native occurrence of yew *Taxus baccata* woods in the UK. Extensive yew groves are found in association with ash-elm *Fraxinus-Ulmus* woodland and it is the only site [within the Natura 2000 site network] selected for yew woodland on Magnesian limestone in north-east England.

4.9 The following vulnerabilities have been reported for the SAC (source: Standard Natura 2000 Data Form, Natural England, 12/2015):

- Forest and Plantation management & use.
- Air pollution, air-borne pollutants.
- Invasive non-native species.
- Problematic native species

4.10 In correspondence dated 1 July 2016 Natural England (Ellen Bekker, Northumbria Area Team, ref: 186285) provided the following advice with regard to air quality: "*The proposals are likely to generate additional nitrogen emissions as a result of increased traffic generation which can be damaging to the natural environment*". "*The effects on local roads in the vicinity of the proposed development on nearby designated nature conservation sites (including increased traffic, construction of new roads, and upgrading of existing roads), and the impacts on vulnerable sites from air quality effects on the wider road network in the area (a greater distance away from the development) can be assessed using traffic projections and the 200m distance criterion followed by local Air Quality modelling where required. We consider that the designated sites at risk from local impacts are those within 200m of a road with increased traffic, which feature habitats that are vulnerable to nitrogen deposition/acidification*." This is generic guidance that applies to all European sites.

4.11 The draft Supplementary Advice for Castle Eden Dene SAC (Natural England, 2016[9]) states that 'This habitat type is considered sensitive to changes in air quality and critical values for atmospheric nitrogen and acidity are currently being exceeded at this SAC'. However, the current exceedance is linked to the site's proximity to urbanised areas and existing sources of atmospheric pollution. Published research (English Nature, 2004; Highways Agency, 2009[10]) indicates that designated sites are only likely to be at risk from local impacts within 200m of a road with increased traffic.

4.12 Since the publication of this guidance, recent case law has further defined how air quality assessments should be scoped. In the case of Wealden District Council v Secretary of State for Communities and Local Government, Lewes District Council and South Downs National Park Authority [2017] EWHC 351, Natural England had advised that the following threshold could be applied at the screening stage: an expected increase in traffic (Annual Average Daily Traffic ("AADT") flows) of less than 1,000 cars per day or 200 HGVs per day, or if the Joint Core Strategy would give rise to less than a 1% increase in traffic compared to that predicted at the end of the Core Strategy period, then it would have no likely significant effect on the SAC and no appropriate assessment would be required. In this case the judgement concluded that the traffic movements needed to include an assessment of predicted change in combination with the plans of neighbouring authorities. At the present time traffic movement predictions are not available for the Durham County Plan.

[9] Natural England (2016). European Site Conservation Objectives: Draft Supplementary Advice on Conserving and Restoring Site Features. Castle Eden Dene Special Area of Conservation (SAC). Published 28 September 2016.
[10] English Nature (2004). The ecological effects of diffuse air pollution. English Nature Research Report 580
Highways Agency (2009). Design Manual for Roads and Bridges. Volume 11, Section 3, Part 1.

4.13 Impacts on Castle Eden Dene SAC relating to traffic induced changes in air quality are not considered likely to be significant as there is only one road that crosses the site (the A1086 coast road, which crosses the eastern end of the site) and one that passes close to the site (the A19, which passes alongside the western end of the site). Whilst an increase in the residential population in the Sunderland City Council area may result in an increase in the traffic using the A19 and the A1086, the presence of broadleaf woodland alongside both roads is likely to buffer the wider SAC from the effects of traffic derived aerial pollution.

4.14 Demographic data analysis (Edge Analytics, 2016[11]) shows that 7.7% of residents of Sunderland work in County Durham, and therefore may commute in the direction of Castle Eden Dene. The analysis also shows that 12.4% of people who work in Sunderland live in County Durham. This indicates that the current commuting level from the Sunderland City Council administrative area to Castle Eden Dene is low.

4.15 A key objective of the Core Strategy and Development Plan is to enhance employment opportunities within the Sunderland City Council administrative area, and to complement this with new housing provision. This in turn will result in a greater proportion of people living and working in Sunderland. Consequently it is unlikely that there will be a significant increase in traffic levels to the south of the administrative area, i.e. past Castle Eden Dene; commuting patterns within the administrative area are expected to be static, i.e. no significant change. This conclusion is supported by the results of traffic modelling data[12], which show that significant traffic increases are not predicted in the southern part of the area. More detailed analysis of modelling data will be carried out to inform the HRA for the Allocations and Designations Plan.

4.16 The earlier HRA (Aecom, 2016) concluded that increased recreational pressure is not likely to be significant if the distance between development and a European site is more than 6 km. Analysis of visitor survey data collected in 2015 reached a similar conclusion (see Appendix 3 for an explanation of how the 6 km threshold has been calculated). On this basis it is concluded that significant recreational impacts are unlikely at Castle Eden Dene SAC as a result of Sunderland's Core Strategy.

4.17 Impacts (direct and indirect) are also considered unlikely on the following sites: Thrislington SAC, the nearest part of which is located 12.0 km to the south; Teesmouth & Cleveland SPA and Ramsar, the nearest part of which is located 13.6 km to the south. It has been concluded that these European sites could not be affected by the Core Strategy's provisions, because of the geographical distance between them and the areas affected by the Core Strategy's provisions and the absence of potential links or pathways. Table 2 provides a summary of the screening assessment.

Table 2: Assessment of likely effects on European sites outside the Sunderland City Council boundary

Distance	**Vulnerabilities**	**Rational for exclusion**
Castle Eden Dene SAC (*Taxus baccata* woods of the British Isles)		
7.5 km to the south	Increased recreational pressure	The site is sufficiently distant that significant recreational impacts are unlikely.
	Increased urbanisation	Urbanisation impacts are unlikely due to the distance from the Sunderland City Council area.
	Coastal squeeze	Coastal squeeze impacts in the Sunderland City Council area are not likely to impact on the SAC.

[11] Edge Analytics (2016). Sunderland: Updating the Demographic Evidence. Published October 2016
[12] Capita (2017). Sunderland Local Plan: Initial Assessment of Transport Impacts. Published April 2017

Distance	Vulnerabilities	Rational for exclusion
	Changes in water quality	There is no hydrological link between the Sunderland City Council area and the SAC and so water quality impacts are unlikely.
	Changes in air quality	Natural England has advised that traffic related air quality impacts are likely to be limited to 200m from major roads. There are only two roads that could affect the SAC and when this is considered alongside the separation distance, significant impacts are unlikely. It is noted that there is a dense belt of trees and shrubs alongside the A19 and so a vegetated buffer is already in place (although its effectiveness is currently unknown).
Thrislington SAC (Sub-Atlantic semi-dry calcareous grassland)		
12.0 km to the south	Increased recreational pressure	The site is sufficiently distant that significant recreational impacts are unlikely. Parking is limited is only available to pre-booked groups.
	Increased urbanisation	Urbanisation impacts are unlikely due to the distance from Sunderland City Council area.
	Coastal squeeze	Coastal squeeze is not relevant given the site's location.
	Changes in water quality	There is no hydrological link between the Sunderland City Council area and the SAC and so water quality impacts are unlikely.
	Changes in air quality	Natural England has advised that traffic related air quality impacts are likely to be limited to 200m from major roads. The SAC is 340m to the west of the A1.
Teesmouth & Cleveland SPA and Ramsar This site qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting populations of European importance of the following Annex 1 species: During the breeding season; little tern *Sterna albifrons* On passage; sandwich tern *Sterna sandvicensis* This site also qualifies under Article 4.2 of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species: On passage; ringed plover *Charadrius hiaticula* Over winter; knot *Calidris canutus;* redshank *Tringa totanus* The area qualifies under Article 4.2 of the Directive (79/409/EEC) by regularly supporting at least 20,000 waterfowl		
13.6 km to the south	Increased recreational pressure	The site is sufficiently distant that significant recreational impacts are unlikely.

Distance	Vulnerabilities	Rational for exclusion
	Increased urbanisation	Urbanisation impacts are unlikely due to the distance from Sunderland City Council area.
	Coastal squeeze	Coastal squeeze impacts in the Sunderland City Council area are not likely to impact on the SAC.
	Changes in water quality	There is no hydrological link between the Sunderland City Council area and the SAC and so water quality impacts are unlikely.
	Changes in air quality	Traffic related air quality impacts are unlikely to be significant on the coastal / intertidal habitats used by the birds that are the reason for designation of the site (ref: http://www.apis.ac.uk/srcl).

Northumbria Coast SPA

Qualifying features

4.18 This site qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive:

4.19 During the breeding season;

- Little Tern *Sternula albifrons*, 40 pairs representing at least 1.7% of the breeding population in Great Britain (5 year peak mean 1991/2 - 1995/6).

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

4.21 Over winter;

- Purple Sandpiper *Calidris maritima*, 763 individuals representing at least 1.5% of the wintering Eastern Atlantic - wintering population (5 year peak mean 1991/2 - 1995/6).
- Turnstone *Arenaria interpres*, 1,456 individuals representing at least 2.1% of the wintering Western Palearctic - wintering population (5 year peak mean 1991/2 - 1995/6).

Conservation objectives

4.22 The Northumbria Coast SPA / Ramsar site conservation objectives are, subject to natural change, as follows:

- 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 populations of each of the qualifying features; and
    - The distribution of the qualifying features within the site.

4.23 Natural England has not yet produced Supplementary Advice to support these objectives.

Site condition

4.24 By reference to the condition of the underlying SSSI management units comprising the SPA (https://designatedsites.naturalengland.org.uk, accessed 21 November 2016, based on an assessment carried out by Natural England in 2009) it is apparent that:

- 61.92% of all SSSI units were in favourable condition (the whole SPA / Ramsar covers a large area of which the Sunderland City Council area is only a small part);
- 38.08% of all SSSI units were in unfavourable recovering condition;
- 100% of constituent SSSI units within the Sunderland City Council area were in favourable condition;
- The only reported negative factor concerning birds was observation of recreational disturbance (dog-walking and rock-pooling) in SSSI unit 16 (which is at Seaham, outside of the Sunderland City Council area).

4.25 It should be noted that the SSSI condition assessment was carried out by Natural England in July 2009 and so the results are likely to be of limited value in terms of assessing the condition of the SPA due to the age of the data. Natural England commissioned wintering bird surveys covering the winter period 2015/2016, and these involved high tide counts and low tide counts at 10 existing Wetlands Bird Surveys (WeBS) sectors along the Durham Coast between South Shields and Seaham. Natural England has advised that funding was only available for one season's monitoring, which is not enough to allow a robust condition assessment to be completed (Ruth Oatway, Natural England, email dated 17 November 2016).

4.26 Although the data from the winter period 2015/2016 are not considered to provide a robust basis for a condition assessment, they do allow a comparison to be made with the baseline and target figures for Durham Coast SSSI (Table 3). Total baseline populations of 26 purple sandpiper and 294 turnstone were recorded: when these are compared with Natural England's minimum target populations (which equate to 50% of the baseline population), turnstone exceeds the target (65% of baseline population) but purple sandpiper misses it (12% of baseline population). These results are broadly in line with the results of other surveys carried out during the winters of 2014/15 and 2015/16 (Arcus Consultancy Services, 2015; BSG Ecology, 2016).

Table 3: Results of wintering bird surveys 2015/2016 (Ruth Oatway, Natural England)

Species	Baseline population	Minimum target population	2015/16 population estimate
Purple sandpiper	218	above 50 % of the baseline = 109 birds	26 birds - fail
Turnstone	449	above 50 % of the baseline = 224 birds	294 birds - pass

Webs data

4.27 The BTO has previously been consulted regarding Wetland Bird Survey (WeBS) data for the section of coast extending from the Tyne Estuary south as far as Seaburn. This revealed that they held an incomplete data set for the most recent 5-year period and that this would not substantially add to other available data.

Cadwallender bird data

4.28 Survey work has previously been carried out during the period December 2011 to March 2012 (Cadwallender & Cadwllender, 2012) and the period December 2012 to March 2013 Cadwallender & Cadwallender, 2013) along the coast from Salterfen Rocks south as far as Hartlepool. The survey methodology was largely based on the BTO WeBS survey. A maximum of 22 turnstones was found at Salterfen Rocks in 2011/12. The maximum number of purple sandpiper was only 6 in 2011/12, and these were also recorded at Salterfen. No high tide roosting areas were found near the Sunderland City Council area.

TNEI bird data

4.29 A survey of foraging and roosting wintering birds was carried out from January to March 2013 and this covered the section of coast from Salterfen Rocks to Byron's Dene (north of Seaham). This survey included diurnal high tide and low tide counts and nocturnal high tide counts. During each visit counts were made approximately hourly for two/three hours either side of high/low tide. A maximum of 13 turnstones at low tide and a peak of 6 at high tide were recorded. The maximum number of purple sandpiper was 9, recorded at high tide. High tide roosting areas were found at Ryhope Dene and Ryhope Nook outflow pipe, supporting turnstone and purple Sandpiper.

Other bird data

4.30 Data provided by Durham Bird Club (DBC) (see Aecom, 2016) for the period 2006-2009 included peak counts of 7 purple sandpiper and 30 turnstone at Salterfen. High tide roosts were found at Sunderland dock/marina with a peak count of 100 turnstones in 2006 on New South Pier.

Arcus bird data

4.31 Arcus completed non-breeding season bird surveys between October 2014 and March 2015, the survey area extending the Tyne Estuary south as far as Seaham. This survey included diurnal high tide and low tide counts that were carried out on a monthly basis.

4.32 Purple sandpipers were recorded feeding and roosting along the rocky shore north of Whitburn Steel. This species was also recorded feeding along the south-west breakwater at Port of Sunderland. During the same survey turnstone was recorded at the same locations but was also recorded at Parson's Rocks, on Roker Pier, North Pier and New South Pier, and along the shore at Grangetown to the north and south of Salterfen Rocks.

4.33 In Table 4 the total counts for turnstone and purple sandpiper recorded within the survey area are presented for each survey month and for high tide and low tide.

Table 4: Total counts for turnstone and purple sandpiper recorded in 2014 / 2015 (Arcus Consultancy Services, 2015)

Month	Turnstone		Purple sandpiper	
	Low Tide	High Tide	Low Tide	High Tide
October	367	174	44	12
November	104	160	12	23
December	139	236	14	13
January	204	247	18	31
February	155	275	29	33
March	100	256	12	59

BSG Ecology

4.34 In 2015 / 2016 BSG Ecology repeated the survey work carried out by Arcus in 2014 / 2015. During these surveys purple sandpiper was recorded along the rocky shore north of Whitburn Steel but was not recorded to the south of Port of Sunderland. The highest peak count of 24 individuals was recorded at Whitburn Steel during the low tide survey in November 2015. Turnstone was recorded at the same locations but was also recorded at Parson's Rocks, on Roker Pier, North Pier and New South Pier, and along the shore at Grangetown to the north and south of Salterfen Rocks. A peak count of 88 turnstones was present at Whitburn during both the low and high tide survey visits completed in December 2015.

4.35 In Table 5 the total counts for turnstone and purple sandpiper recorded within the survey area are presented for each survey month and for high tide and low tide.

Table 5: Total counts for turnstone and purple sandpiper recorded in 2015 / 2016 (BSG Ecology, 2016)

Month	Turnstone		Purple sandpiper	
	Low Tide	High Tide	Low Tide	High Tide
October	154	202	0	6
November	209	133	34	20
December	250	236	11	19
January	74	191	3	18
February	128	121	4	31
March	137	200	1	2

Bird Trends

4.36 BTO WeBS report online provides annual trend data for both purple sandpiper and turnstone for England for the period 1975/75 to 2014/15[13]. In summary, this shows that purple sandpiper numbers peaked in 1988/89 but since then there has been a decline with numbers now at a level that was previously seen in the late 1970s. Turnstone numbers peaked in 1987/88 but have also declined since then. Current numbers are at their lowest since 1975/76.

4.37 The BTO WeBS report online also provides total counts for purple sandpiper and turnstone for the Durham Coast for the period 2010/11 to 2014/15. These counts are shown in Table 6.

Table 6: Annual counts of purple sandpiper and turnstone for Durham Coast (2010/11 to 2014/15)

Species	10/11	11/12	12/13	13/14	14/15	5 yr average
Purple sandpiper	51	68	29	65	59	54
Turnstone	121	147	110	105	88	117

[13] http://app.bto.org/webs-reporting/

4.38 The total counts obtained by BSG Ecology are broadly in line with the WeBS data (Table 5).

Vulnerabilities

4.39 The Conservation Objectives and Favourable Condition Tables for the Northumbria Coast SPA provide an indication of the site's vulnerabilities, as does the Standard Natura 2000 Data Form for the site. Further information is available from Natural England's Views About Management (VAM) which covers the component SSSIs.

4.40 As previously noted, Natural England has not yet produced Supplementary Advice for the SPA and so, in the absence of this document, reference has been made to Regulation 33(2) advice published by English Nature (English Nature, 2000[14]). The Regulation 33(2) advice states that the important bird populations require a naturally functional intertidal habitat for roosting, breeding and feeding. The most important factors related to this are considered to be:

- Current extent and distribution of suitable feeding and roosting habitat (e.g. rocky shores, sand beaches and artificial high tide roosts);
- Current extent of suitable breeding habitat (sandy beaches);
- Sufficient prey availability (e.g. small fish, crustaceans and worms);
- Minimal levels of disturbance.

4.41 The following vulnerabilities have been reported for the SPA / Ramsar sites (source: Standard Natura 2000 Data Form, JNCC, Version 1.1, 05/05/06):

4.42 '*Little terns are vulnerable to disturbance by tourists in the summer causing reduced breeding success. The National Trust employs wardens each summer to protect the little tern colony at Beadnell Bay*.'

4.43 There are two little tern nesting sites within the Northumbria Coast SPA and these are located at Beadnell and Crimdon, both of which are beyond the 6 km visitor pressure catchment within which recreational impacts are being considered (Crimdon is the closer of the two locations and this is c.16 km from the Sunderland City Council area: Beadnell is more than 60 km to the north). Consequently nesting little terns are not considered further as it is considered highly unlikely that implementation of the Core Strategy will impact on either nesting site.

4.44 The Regulation 33(2) (Conservation (Natural Habitats, &c.) Regulations 1994) conservation advice identifies noise / visual disturbance and physical loss of habitat as the key vulnerabilities for wintering purple sandpiper and turnstone. Survey work carried out in 2014/15 (Arcus Consultancy Services) and 2015/16 (BSG Ecology, 2015) has confirmed that recreational disturbance is a key vulnerability, with both surveys reporting disturbance of purple sandpiper and turnstone. Habitat damage, toxic/non-toxic contamination and biological disturbance are also potential vulnerabilities.

Northumbria Coast Ramsar

Qualifying features

4.45 The Northumbria Coast qualifies as a Ramsar site under Ramsar criterion 6: species/populations occurring at levels of international importance. The Ramsar site boundary is contiguous with the SPA boundary and both sites are noted for the same qualifying species (although the number of species at the time of designation differs).

4.46 Species regularly supported during the breeding season:

- Little tern, *Sternula albifrons albifrons*, W Europe, 43 apparently occupied nests, representing an average of 2.2% of the GB population (Seabird 2000 Census)

[14] English Nature (2000). Northumbria Coast European marine site: English Nature's advice given under Regulation 33(2) of the Conservation (Natural Habitats &c.) Regulations 1994.

4.47 Species with peak counts in winter:

- Purple sandpiper, *Calidris maritima maritima*, E Atlantic – wintering 291 individuals, representing an average of 1.6% of the GB population (5 year peak mean 1998/9-2002/3).
- Ruddy turnstone, *Arenaria interpres interpres*, NE Canada, Greenland/W Europe & NW Africa 978 individuals, representing an average of 1% of the population (5 year peak mean 1998/9-2002/3).

Conservation objectives

4.48 As reported above for Northumbria Coast SPA.

Site condition

4.49 As reported above for Northumbria Coast SPA.

Vulnerabilities

4.50 As reported above for Northumbria Coast SPA.

Durham Coast SAC

Qualifying features

4.51 The Annex I habitat that is a primary reason for the selection of this site is 'Vegetated sea cliffs of the Atlantic and Baltic Coasts'. The description of this habitat provided on the site citation is as follows:

4.52 "*The Durham Coast is the only example of vegetated sea cliffs on magnesian limestone exposures in the UK. These cliffs extend along the North Sea coast for over 20 km from South Shields southwards to Blackhall Rocks. Their vegetation is unique in the British Isles and consists of a complex mosaic of paramaritime, mesotrophic and calcicolous grasslands, tall-herb fen, seepage flushes and wind-pruned scrub. Within these habitats rare species of contrasting phytogeographic distributions often grow together forming unusual and species-rich communities of high scientific interest. The communities present on the sea cliffs are largely maintained by natural processes including exposure to sea spray, erosion and slippage of the soft magnesian limestone bedrock and overlying glacial drifts, as well as localised flushing by calcareous water*".

Conservation objectives

4.53 The Durham Coast SAC conservation objectives are, subject to natural change, as follows:

- 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;
    - The structure and function (including typical species) of qualifying natural habitats;
    - The supporting processes on which the qualifying natural habitats rely.

4.54 Natural England has not yet produced Supplementary Advice to support these objectives.

4.55 The site condition assessment for the component units of Durham Coast SSSI provide useful background information about the vegetation that is a key reason for the designation of both the SSSI and the SAC, although it is important to note that the assessment was completed in 2009 and so the results need to be treated with caution as they are 8 years old. The descriptions provided below relate to those units that are located within the Sunderland City Council area and within the 6 km visitor catchment that has been applied to the SAC.

Site condition

4.56 By reference to the condition of the underlying SSSI management units comprising the SAC (obtained from the Natural England website in January 2015 and indicating that the latest assessment was mostly in 2009 except for two units on the south side of Seaham assessed in 2013) it is apparent that:

- 64% by area of constituent SSSI units (50% by number of constituent SSSI units) within 6 km of the SSGA was in favourable condition at the last assessment;
- The remainder of the constituent SSSI units were in unfavourable recovering condition.

4.57 The various constituent SSSI management units that are present within the Core Strategy area and within 6 km of the boundary of that area are mostly described as 'favourable' (Table 7 – more detail information is provided in Appendix 4) but are primarily of interest for the rocky shore and associated non-breeding birds (including turnstone and purple sandpiper). Units 20 and 23 to the south of Seaham (which falls within the 6 km visitor pressure catchment) is described as 'unfavourable recovering'.

Table 7: Condition assessment for the constituent SSSI units of the Durham Coast SAC (within the Sunderland City Council area).

SSSI unit	Section	Description	Condition assessment
6	The Bents to Whitburn Rifle Ranges	Littoral rock (34.6 ha)	Favourable. No negative issues were identified for the coastal bird habitat
10	The Bents to Whitburn Rifle Ranges	Lowland neutral grassland (13.4 ha)	Favourable.
13	Parsons Rocks	Littoral rock (4.5 ha)	Favourable. The only negative factor on the unit was the amount of dog walking occurring on the accessible parts of the unit. The birds are forced to the seaward edge of the rocky shore so the amount of useable habitat during these times is reduced.
14	Promenade at Grangetown to Halliwell Banks	Littoral rock (13.5 ha)	Favourable. No negative features or actions were affecting the unit.
15	Halliwell Banks to south of Ryhope Dene	Littoral rock (15.8 ha)	Favourable. No negative features or actions were affecting the unit with the exception of some historic dumping areas seen on the cliff slopes.
20	Nose's Point to Shot Rock	Calcareous grassland (16.4 Ha)	Unfavourable recovering. Mine waste is constraining coastal erosion, therefore exposing less bare ground for pioneer communities.
23	Nose's Point to Shot Rock	Littoral sediment (45.2 Ha)	Unfavourable recovering See unit 20

Vulnerabilities

4.58 The following vulnerabilities have been reported for the SAC (source: Standard Natura 2000 Data Form, Natural England, 12/2015):

- Fertilisation;
- Human intrusions and disturbances;
- Invasive non-native species;
- Human induced changes in hydraulic conditions; and
- Abiotic (slow) natural processes.

4.59 A previous assessment (Aecom, 2016) identified the following likely vulnerabilities for the Durham Coast SAC, which expands upon the list provided by Natural England: erosion (natural or human through e.g. recreational activity), pollution (including nutrient input from agriculture and former landfill), interference with natural coastal processes and loss to coastal development.

4.60 The SAC vegetation has developed as a result of various factors including soil type, underlying geology, marine influence, drainage etc as well as the eroding nature of the rock faces on which the vegetation is located. As noted in a previous assessment (Aecom, 2016) the various natural processes that are taking place may help to prevent the dominance of more competitive grassland species that might otherwise reduce species diversity. However, the need to control coastal erosion and flooding to prevent damage to existing assets means that there is some disruption of natural processes or there is likely to be in the future.

4.61 Within the Sunderland City Council administrative area and the 6 km visitor pressure catchment, a 'hold the line' policy is being adopted for the majority of the coast. From Hendon Seawall to Pincushion the proposal is for 'retreat or realignment' and from Pincushion to Seaham the proposal is for 'no active intervention' (Royal Haskoning, 2007[15]).

4.62 The cliff-top line south of Pincushion is unstable (eroding) and is gradually moving inland. Cliff retreat by natural erosion is predicted to be 1.0 $m.yr^{-1}$ at Salterfen and 0.4 $m.yr^{-1}$ at Pincushion (Royal Haskoning, 2007). Erosion processes have created a coast that is characterised by eroding cliffs in many areas. Consequently access along the cliff top is typically via the existing well-defined pathway: observations made during the recreational surveys carried out in 2015 / 2016 (BSG Ecology, 2016) indicated that the majority of walkers and cyclists used the available paths or grassland areas set back from the cliff tops (Steven Betts, BSG Ecology, pers. comm.). People and dogs rarely approached the cliff edge, which in many areas has fracture lines and other signs of on-going erosion.

4.63 With regard to underlying SSSI units 20 and 23 south of Seaham, the northern parts of which are within the 6 km catchment, the SSSI condition assessment reports that cliff erosion is inhibited by colliery waste on the beach, causing a reduction in expected pioneer plant species which depend on freshly eroded substrate. In other words, the status of the habitat is influenced by historic industrial waste rather than recent development.

4.64 Magnesian limestone grassland is present within the area of mown grassland between the cliff and dismantled railway at the north end of SSSI unit 20 (southern edge of Seaham). Whilst this grassland may be vulnerable to the effects of trampling, there is no evidence that this is occurring (URS, 2015). It is considered likely that additional visitors to this area who have travelled from development sites within the SSGA (which is towards the limit of the 6 km catchment), would continue to use the existing path network (part of both the Durham Coast Path and England Coast Path) (Aecom, 2016).

4.65 With respect to possible eutrophication from dog faeces, this is also considered unlikely at significant levels given that the nearest public car park is 400m from SSSI unit 20. Consequently

[15] Royal Haskoning (2007). Shoreline Management Plan 2: River Tyne to Flamborough Head. Prepared on behalf of North East Coastal Authorities Group. February 2007.

dog defecation is likely to occur before reaching the SAC as research indicates that dogs typically defecate within 400m of a start point (Taylor et al., 2005[16]). It is therefore considered that significant adverse effects on SAC vegetation as a result of trampling or dog fouling within the 6 km catchment are unlikely.

4.66 The occasional use of off-road motorised vehicles (such as motor bikes) has been reported (Aecom, 2016), and occasional activities of this sort can exacerbate existing natural erosion or create new areas of erosion. Aecom (2016) concluded that motor vehicle disturbance is unlikely to have a significant effect on the SAC and there is no reported evidence that such impacts are occurring.

[16] Taylor, K., Anderson, P., Taylor, R. P., Longden, K. & Fisher, P. (2005). Dogs, access and nature conservation. Research Report. English Nature, Peterborough.

5 Screening for Likely Significant Effects

The 'Screening' process

5.1 The term 'screening' is routinely adopted to describe the initial stages of the Habitats Regulations Assessment. The purpose of screening is to:

5.2 Identify all aspects of the Core Strategy that are not likely to have a significant effect on a European site, either alone or in combination with other aspects of the Core Strategy or other plans or projects. These can then be screened out from further assessment.

5.3 Identify those aspects of the Core Strategy where it is likely to have a significant effect on a European site, either alone or in combination with other plans or projects. These aspects will require 'appropriate assessment' and mitigation measures may need to be introduced.

Likely significant effects

5.4 Current guidance defines a 'likely' effect as one that cannot be ruled out on the basis of objective information. In the Waddenzee case the European Court of Justice provides further clarity on this point, advising that a project (and a plan) should be subject to appropriate assessment 'if it cannot be excluded, on the basis of objective information, that it will have a significant effect on the site, either individually or in combination with other plans and projects"[17]. Therefore, 'likely' should be interpreted as a significant effect, objectively, cannot be ruled out.

5.5 An effect may be significant if it undermines the conservation objectives for the European site. The assessment of whether a potential effect is significant for the site's interest features must consider, amongst other things, the characteristics and specific environmental conditions of the site concerned. The Advocate General's Opinion for the Sweetman case[18] provides further clarification, stating that consideration of the likelihood of a significant effect is simply a case of determining whether the plan or project is capable of having a significant effect.

Refining the scope (screening out)

5.6 It is possible to screen out some types of policies and proposals in the Core Strategy, on the basis that there is no potential mechanism by which an effect can occur or if any effect is not likely to be significant. Policies that may be screened out from further assessment can broadly be categorised as follows:

- Administrative text, general aspirations or Plan vision, goals and objectives.
- General policy statements and general criteria based policies: These policies set out strategic aspirations with regard to certain issues. Policies of this type are not likely to have any effect on a European site as they only establish general aspirations or objectives.
- Projects or proposals referred to in, but not proposed by, the Core Strategy: Whilst the Core Strategy may refer to large projects, it may not be feasible or necessary to assess the effects these projects (which are not proposed by the plan). Nevertheless, it may become necessary to consider these projects in combination with the effects of other plans or projects.
- Other aspects of a plan that could have no likely significant effect on a site, either alone or in combination with other aspects of the same plan, or with other plans or projects: Policies and proposals can be screened out if they are not likely to have a significant effect on a site, alone or in combination with other aspects of the same plan, or with other plans or projects. Effects may be direct, such as land take, or may be indirect, such as through disturbance or hydrological changes.

[17] See paragraph 45 of European Court of Justice case C-127/02 dated 7th September 2004, 'the Waddenzee ruling'.
[18] Sweetman v. An Bord Pleanála, Case C-258/11, CJEU judgment 11 April 2013.

5.7 The Core Strategy and its incorporated objectives, proposals and policies, has been analysed to determine whether they are likely to have a significant effect on the integrity of any European site (Stage 1C). The results of this screening are summarised in Table 8 below: a more detailed assessment of each policy is provided in Appendix 5.

Table 8: Aspects of the Core Strategy that are not likely to have a significant effect on a European site and are proposed to be screened out

Aspects of the Core Strategy	Rationale for screening in or out
Strategic Challenges (Chapter 3: Sunderland Today)	The Plan includes twenty eight Strategic Challenges. Each of these Strategic Challenges is a general policy statement that is not considered likely to have an effect on a European site.
Strategic Priorities (Chapter 4: Spatial Vision for Sunderland 2033)	The Plan lists fourteen Strategic Priorities covering nine themes. Each of these Strategic Priorities are general policy statements that are not considered likely to have an effect on a European site.
Chapter 5: Spatial Strategy	This section of the Plan includes four policies (SS1-SS4). None of these policies will lead to development or other changes and consequently are not considered likely to have an effect on a European site.
Chapter 6: Strategic Site Allocations	This section of the Plan includes four policies (SA1-SA4). Policy SA1 (Vaux site) establishes the principles of mixed residential and non-residential development, but already benefits from planning permission and consequently has previously been assessed. Policy SA2 Relates to the SSGA, which has been subject to separate HRA. Policy SA3 is for Housing Release Sites, some of which would fall within 6 km of the European Sites. Policy SA4 identifies safeguarded land, which is not likely to have an effect on a European site.
Chapter 7: Health, Wellbeing and Social infrastructure	This section of the Plan includes three policies (HWS1-HWS3) which set out the Council's aspirations for growth. Policies HWS1 and HWS2 are not considered likely to have an effect on a European site. HWS3 includes support for leisure and tourism proposals at Seaburn and Roker seafront, which are in close proximity to the European sites.
Chapter 8: Homes	This section of the Plan includes nine policies (H1-H9). Policies H1-H4 and H7 establish the principles of housing provision and sets out the Council's general aspirations / objectives. Policy H5 relates to student accommodation and this policy was previously subject to a separate HRA, which concluded that there was no likely significant effect. Policies H8 and H9 are screened in as there is the potential for impacts to arise in combination with other plans and projects. The remaining policies are not considered likely to have any effect on a European site.
Chapter 9: Economic Prosperity	This section of the Plan includes twelve policies (EP1-EP12). The policies collectively establish the principles of non-residential development and are considered unlikely to have an effect on a European site with the possible exception of policy EP1, which includes support for exploiting the potential of the Port of Sunderland, utilising its Enterprise Zone.

Aspects of the Core Strategy	Rationale for screening in or out
Chapter 10: Environment	This section of the Plan includes twenty policies (E1-E20). All of the policies seek to protect the environment and are therefore not likely to have an adverse effect on a European site. Policy E7 Biodiversity and Geodiversity currently does not include any specific requirement for Habitats Regulations Assessment, but this requirement is noted within the supporting text for the policy. This text acknowledges the possibility that distant development can nevertheless result in indirect impacts on European sites.
Chapter 11: Carbon Management	This section of the Plan includes eight policies (CM1-CM8) all of which set out the Council's aspirations to limit the effects of climate change. None of the policies are likely to have an effect on a European site.
Chapter 12: Connecting the City	This section of the Plan includes seven policies (CC1-CC7) all of which set out the Council's aspirations to improve transport links and connectivity around the City. None of the policies are likely to have an effect on a European site, with the exception of CC4, which relates to the development of the Port of Sunderland. This policy has been screened in for this reason.
Chapter 13: Waste and Minerals	This section of the Plan includes ten policies (WM1-WM10) four of which set out the Council's aspirations to control waste management and six of which relate to minerals development. All of the policies are general policy statements that are not considered likely to have an effect on a European site.
Chapter 14: Infrastructure and Delivery	This section of the Plan includes three policies (ID1-ID3) that set out the Council's aspirations for infrastructure delivery, establish the role of planning obligations and set out the enforcement options available to the Council. None of these policies is considered likely to have an effect on a European site.

5.8 The policies listed below are therefore given further consideration within the following sections of the Habitats Regulations Assessment, as it needs to be determined whether adverse effects on the integrity of the European sites can be ruled out following analysis of available information and evidence:

- Policy SA3: Housing Release Sites
- Policy HWS3: Culture, Leisure and Tourism
- Policy H6: Travelling Showpeople, Gypsies and Travellers
- Policy H8: Housing in Multiple Occupation
- Policy H9: Backland and Tandem Development
- Policy EP1: Economic Growth
- Policy E7: Biodiversity and Geodiversity
- Policy CC4: Port of Sunderland

5.9 As previously noted, Policy H5 (Student Accommodation) has previously been subject to a separate HRA. This concluded that the policy was not likely to have a significant effect on a

European site, either alone or in combination with other plans and projects. The policy has been re-assessed and the original conclusion is considered to still apply; consequently this policy has been scoped out of the assessment.

5.10 Potential impact pathways have previously been identified (Aecom, 2016) and these are considered to be relevant for the purposes of this assessment:

- Recreation: Increased recreational pressure including disturbance from recreational activities.
- Urban effects: Increased effects of urbanisation including the introduction of invasive species and predation from domestic animals.
- Coastal squeeze: Exacerbation of coastal squeeze due to increased requirement for maintenance of sea defences.
- Water quality and resources: Changes in surface and groundwater quality and availability.
- Changes in air quality.

5.11 It is possible that some of the above policies may result in impacts on a European site via one or more of these pathways. Each pathway is considered briefly below.

Recreation

5.12 Further assessment is required to determine if the proposed new development (and associated increase in population) could have a significant effect on a European site. Work undertaken by Sunderland City Council and neighbouring authorities indicates that there is already a high level of recreational pressure on parts of the coast and this could increase.

Urban effects

5.13 The development proposed within the Core Strategy may result in increased urbanisation effects in close proximity European sites. In particular, effects such as lighting, noise, litter, spread of invasive species and vandalism could increase with increased development in close proximity to a European site.

Coastal squeeze

5.14 Increased development close to the coast could result in a requirement to change the coastal defence strategy, thereby resulting in interference with the natural processes that are responsible for the development of the internationally important coastal vegetation within the European sites.

Water quality

5.15 The proposed new housing development has the potential to impact on surface and groundwater quality, which may in turn have an effect on European sites.

5.16 As there are uncertainties at the initial screening stage regarding the likelihood of effects to occur, these elements of the Plan therefore require more detailed consideration and analysis. The next stage of the Habitats Regulations Assessment is a more detailed analysis of the potential issues, having regard for any information available or reasonably obtainable (the appropriate assessment). To inform the 'appropriate assessment' it is firstly necessary to identify the underlying trends that are affecting the environment within the Plan area.

Air quality

5.17 It is possible that increased traffic levels arising from future population growth could result in changes in air quality. Aerial pollutants can impact on sensitive vegetation, potentially resulting in the loss of some plant species.

6 Identifying Underlying Trends

6.1 When assessing the effects of a plan on the integrity of a European site, it is important to establish a robust baseline against which any change can be measured. It is possible that certain underlying trends may have an effect on a European site beyond those that might arise as result of the objectives, proposals and policies of the Core Strategy. The following trends have been identified as being relevant to the Habitats Regulations Assessment process:

- Air quality
- Water quality and hydrology
- Tourism and recreation
- Climate change
- Non-native invasive species

6.2 The changes in the baseline that have arisen or might reasonably be expected to arise as a result of each of these factors is considered in more detail in the following sections.

Air Quality

6.3 The UK Government reports that between 1970 and 2014 there has been a long term decrease in the emissions of the following air pollutants: ammonia, nitrogen oxides, particulate matter (PM10, PM2.5) and sulphur dioxide[19]. These pollutants are considered in Table 9 below.

Table 9: Significant aerial pollutants in the UK

Pollutant	Source and trends	Impact mechanism	Other considerations
Sulphur Dioxide SO_2	Processes that burn large quantities of fossil fuels, e.g. power stations. Emissions of sulphur dioxide have fallen by 95.1 per cent since 1970 to 0.31 million tonnes in 2014	Wet and dry deposition of SO_2 causes acidification of soils and fresh waters. Can affect plants that are intolerant of more acid conditions.	Impact significance depends on deposition levels and the buffering capacity of the receiving environment. The basic soils of the Core Strategy area are likely to have a higher buffering capacity.
Nitrogen Oxides NOx (nitrate (NO_2), nitrogen oxides (NO_3) and nitric acid (HNO_3)	Mainly produced by combustion, e.g. power stations, vehicle exhausts Emissions of nitrogen oxides have fallen by 69 per cent since 1970, to 0.95 million tonnes in 2014	Deposition of NOx causes acidification of soils and fresh waters. Can affect plants that are intolerant of more acid conditions.	can also lead to the eutrophication of soils and waters, which can result in the competitive exclusion of sensitive species as more vigorous ones take advantage of the increased nutrient levels

[19] Defra National Statistics Release: Emissions of air pollutants in the UK, 1970 to 2014 (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/486085/Emissions_of_air_pollutants_statistical_release_2015_-_Final__2_.pdf).

Pollutant	Source and trends	Impact mechanism	Other considerations
Ammonia (NH_3)	Decomposition of animal wastes, and adverse effects are caused by eutrophication Emissions of ammonia have fallen by 13.4 per cent since 1980, to 281 thousand tonnes in 2014	Intensive livestock rearing is thought to contribute to the problem	Agri-environment schemes may lead to a reduction of outputs
Particulate matter	Combustion processes including motor vehicles Emissions of PM_{10} have fallen by 72.6 per cent since 1970, to 148.4 thousand tonnes in 2014. Emissions of $PM_{2.5}$ have fallen by 76 per cent since 1970, to 105.1 thousand tonnes in 2014	Particulate matter is linked to acidification effects and toxic effects of ozone. Can affect plants that are intolerant of more acid conditions.	Road vehicles are likely to be the main contributing source within the Sunderland City Council area.
Low Level Ozone O_3	A secondary pollutant generated by photochemical reactions from NOx and volatile organic compounds	Direct toxic effects	Concentrations of O_3 exceeding 40 ppb are toxic to humans and wildlife, altering the species composition of semi-natural habitats

6.4 It is possible that vehicle use in Sunderland may increase in line with underlying trends in car ownership, increasing levels of economic activity and increasing levels of tourism, although population growth is weak, which may result in an overall neutral effect. The Highways Agency Design Manual for Roads and Bridges (Highways Agency, 2009) includes an equation describing the characteristic decrease in pollutant concentrations with increasing distance from roads. Based on this and other research, it is considered that NOx emissions generated within 200m of a European site which has interest features which are vulnerable to nitrogen deposition need to be considered in Habitats Regulations Assessments.

6.5 The Air Pollution Information System (APIS[20]) provides a searchable database and information on pollutants and their impacts on habitats and species. Data available for the Durham Coast SAC (Table 10) indicate that the site's qualifying interest (Vegetated sea cliffs of the Atlantic and Baltic Coasts) is potentially vulnerable to nitrogen deposition, nitrogen oxide (NOx) and ammonia (NH_3). Critical loads are provided for NOx (critical annual mean 30 µg/m3) and SO_2 (critical level annual mean 10-20 µg/m3).

6.6 The APIS database also includes concentration and deposition levels for the SAC, and the data show that the current average level of each of the pollutants is below the critical level for the habitat.

[20] http://www.apis.ac.uk/srcl

Table 10: APIS data for Durham Coast SAC (concentration and deposition levels)

	Nitrogen deposition	Acid deposition		Ammonia concentration	Nitrogen oxide concentration	Sulphur dioxide
	kgN/ha/yr	Nitrogen keq H+	Sulphur ha/yr	µg/m^3	µg/m^3	µg/m^3
Maximum	18.62	1.33	0.23	1.45	25.63	6.06
Average	14.63	1.05	0.20	1.01	10.60	4.25
Minimum	11.90	0.85	0.18	0.65	14.01	2.45

6.7 The APIS database also includes information on the susceptibility of the Northumbria Coast SPA and its interest features, i.e. little tern, turnstone and purple sandpiper (Table 11). For the purposes of this assessment little tern has been scoped out due to the locations of the nesting sites at Beadnell and Crimdon, which are more than 60 km and 16 km away respectively.

6.8 APIS states that for nitrogen, acidity, ammonia, NOx and SO_2 there are no expected negative impacts on turnstone and the broad habitat that they use, i.e. littoral rock. It also notes that there may be a potential positive impact on the species from some pollutants by enhancing the species' food supply. No impacts on purple sandpiper's broad habitat are predicted.

Table 11: APIS data for Northumberland Coast SPA – turnstone and purple sandpiper (concentration and deposition levels)

	Nitrogen deposition	Acid deposition		Ammonia concentration	Nitrogen oxide concentration	Sulphur dioxide
	kgN/ha/yr	Nitrogen keq H+	Sulphur ha/yr	µg/m^3	µg/m^3	µg/m^3
Maximum	15.96	1.14	0.44	1.33	39.45	4.77
Average	11.60	0.83	0.27	0.69	6.1	1.86
Minimum	8.82	0.63	0.16	0.37	10.84	0.40

Water Quality

6.9 Whilst high water quality is an important factor in terms of maintaining the integrity of some European sites, the conservation objectives for the Durham Coast SAC and the Northumbria Coast SPA and Ramsar sites do not highlight water quality as being of importance. The habitats of the SAC have developed on an underlying geology that is typically free-draining and there is no evidence to indicate that hydrological links are significant in terms of maintaining the vegetation within the SAC. Nevertheless, fertilizer application in close proximity to the SAC could impact on vegetation directly by affecting species that are unable to tolerate high nutrient levels, or indirectly by encouraging the growth of more vigorous species.

6.10 The Northumbria Coast SPA and Ramsar sites are noted for wintering birds that utilise intertidal habitats, which are considered to be less susceptible to the quality of freshwater discharges due to the dilution and mixing associated with discharges to the marine environment.

6.11 Notwithstanding this Natural England has provided the following advice regarding sewage discharges (Ellen Bekker, Natural England, 1 July 2016): '*We advise that the discharge of untreated sewage via Whitburn Steel pumping station and the discharge of untreated surface water are also considered as part of the screening assessment for LSEs on European sites*.' It is understood that Northumbrian Water is planning to implement a £8M scheme to upgrade the sewer network in parts of South Tyneside and Sunderland and this will result in fewer occasions when waste water is discharged into the sea at Whitburn Steel.

6.12 Improvements in treatment of sewage arising from coastal settlements in order to meet Urban Waste Water Treatment Directive obligations will help to ensure that increasing numbers of residents and visitors do not contribute to the eutrophication of intertidal and subtidal habitats.

Hydrology

6.13 As with water quality, water supply is an important factor in terms of maintaining the integrity of some European sites, however the conservation objectives for the Durham Coast SAC and the Northumbria Coast SPA and Ramsar sites do not highlight water quality as being of importance in terms of maintaining the integrity of any of the sites. The habitats of the SAC are not reported to be dependent on hydrological links to maintain their interest. The SPA and Ramsar sites are strongly influenced by the marine environment.

Tourism and Recreation

6.14 The coast is an important visitor attraction including the section that is within the Core Strategy area. Some sections tend to be favoured more than others, hotspots including the promenade and beaches at Roker, Seaburn and Grangetown (Arcus Consultancy Services, 2015; BSG Ecology, 2016). Furthermore, there are initiatives to promote coastal regeneration, such as at Seaburn and Roker (Policy HWS3). Whilst the coast attracts people on vacation, there are also shorter duration visits, typically by local residents, who wish to participate in recreation at the coast.

6.15 Disturbance can arise from coastal recreation, and this has the potential to have an adverse impact on the SPA birds, i.e. nesting and feeding little tern, feeding and roosting migratory and wintering waders. There is also the potential for impacts on fragile coastal plant communities. Dogs, especially those that are off the lead, have been shown to increase the effect of disturbance of birds (Arcus Consultancy Services, 2015; BSG Ecology, 2016). The risk of disturbance occurring is greatest in the winter when the SPA / Ramsar birds are present; however, this is also the period when recreational levels are likely to be at their lowest.

Climate Change

6.16 It is now widely accepted that the climate is changing as a result of man's influence, but the nature and magnitude of the resultant changes are difficult to predict. Nevertheless, there is increasing evidence that climate change in the UK will result in increasingly warm dry summers and mild, stormy winters along with rising sea levels. These changes may, in turn, result in impacts on European sites.

6.17 Climate change has the potential to result in a wide range of effects including coastal erosion, fluvial and coastal flooding, and changes in species distribution.

Coastal Erosion

6.18 Parts of the Sunderland coast are prone to erosion and it is likely that there will be increased pressure to slow or stop the erosive processes to protect human land uses on the landward side. This is likely to affect some coastal European sites due to the loss of sensitive vegetation and intertidal habitat used by birds.

6.19 The River Tyne to Flamborough Head Shoreline Management Plan 2 (Royal Haskoning, 2007) indicates that up to 2025 a 'hold the line' policy is to be adopted between South Bents and Hendon Seawall. From Hendon Seawall to Pincushion the proposal is for 'retreat or realignment' and from Pincushion to Seaham the proposal is for 'no active intervention' over the same timeframe.

6.20 Concerns have previously been expressed that the former landfill site at Halliwell Banks is at risk of being breached by coastal erosion. Soils contaminated with coal tar and gas works waste were removed from the landfill site in October 2006; however, an area along the eastern edge of the landfill runs close to the cliff edge and is considered to pose a pollution risk. Groundwater and coastal erosion is currently being monitored on site.

Flooding

6.21 In general, rivers and wetlands are expected to be increasingly affected by low flows in summer and floods in winter. There are few watercourses that discharge into the sea (and hence may impact on the European sites) along the Sunderland City Council coast: the River Wear flows through the City itself before discharging into the sea at Roker; Ryhope Dene flows into the sea at the southern edge of the Sunderland City Council area. Consequently climate change effects on rivers and wetlands within the Sunderland City Council area are not considered to be significant.

6.22 The River Wear is considered to present both fluvial and tidal flood risk in North Sunderland, however as the Flood Zones are constrained mainly to the channel banks, the flood risks are low and there are relatively few properties at risk[21].

6.23 The risk of coastal flooding is low with both Flood Zones 3 and 2 mainly following the Mean High Water Spring Level due to high ground and cliff frontage. The coastline is protected by coastal defences for the majority of its coast. Whilst assets are generally in good condition overtopping often occurs, particularly when spring tides coincide with strong onshore wind and wave conditions, this leads to flooding of Marine Walk, Roker, the promenade at South Bents and Dykeland Road, Seaburn. There is a risk of increased overtopping during climate change events.

Species distribution

6.24 There may be changes in the distribution of certain species in response to climatic changes, which may, for example, result in species relocating to areas that have more suitable conditions. This may not directly impact on any of the species that are the cited interest of any European site in the Plan area; however, there could be indirect impacts, for example as a result of changes in prey availability.

6.25 Climate related changes could also result in increasing rates of colonisation by new species, including non-native species, pests and diseases. This in turn may impact on species within European sites, for example due to species competition, altered food sources and availability.

6.26 Predicting species responses to climate change is likely to be challenging, and consequently habitat manipulation to mitigate these changes is also likely to be challenging, not least due to uncertainty about its' effectiveness. Restoring existing habitats to good condition may help to mitigate the effects of climate change, and increasing ecological connectivity habitat networks may help species populations adapt to climate change. It is possible, however, that any benefits may only be effective in the short-term.

Invasive Species

6.27 Many non-native species have now become established in the UK, following their intentional or accidental introduction. Some non-native plants have adapted very well to local conditions and have become highly invasive as a result, potentially displacing native vegetation and sometimes forming dense monocultures. Some animals have also become highly invasive, displacing native species, for example as a result of direct competition or diseases that they carry. There are currently no known issues relating to non-native species that are affecting the Durham Coast SAC and the Northumbria Coast SPA and Ramsar sites.

[21] Sunderland City Council (2016). Local Flood Risk Management Strategy. March 2016.

7 Appropriate Assessment

7.1 In the 'screening' stage of the assessment the objectives, proposals and policies of the Core Strategy have been examined to identify those that are likely to have a significant (adverse) effect on a European site. Where it is concluded that an objective, proposal or policy is likely to have a significant effect, it is necessary to progress to the next stage (Stage 2), which is the completion of an 'appropriate assessment'.

7.2 The appropriate assessment involves a re-evaluation each objective, proposal or policy that has been carried through, against each European site's conservation objectives. Using the evidence available the likely effects have been quantified or refined further to establish whether there is a likely significant effect and, if so, to identify appropriate measures to mitigate the identified effects.

7.3 The following potential impact pathways have previously been identified (Aecom, 2016):

- Increased recreational pressure – including disturbance from recreational activities.
- Increased extent of urbanisation - including the introduction of invasive species and predation from domestic animals.
- Exacerbation of coastal squeeze – due to increased requirement for maintenance of sea defences.
- Changes in water quality.
- Changes in air quality.

7.4 Each of these potential pathways is considered in the following sections:

Recreation – disturbance

Data Analysis

7.5 A visitor survey was commissioned by Sunderland City Council and South Tyneside Council between November 2014 and April 2015. This was complemented by a second visitor survey that took place during the period January to March 2016. The results of these surveys provide useful information about visitor behaviour during the winter period, and show that behaviour during the summer does not differ significantly.

7.6 The seasonal scope of the visitor survey is not considered to constrain the assessment of impacts of recreational activities upon the wintering bird features of the Northumbria Coast SPA/ Ramsar. The reason for this is that the qualifying bird interest species, i.e. turnstone and purple sandpiper, are not present in significant numbers outside of the winter months. However, the visitor survey data may underestimate the impact of recreational pressure upon the cliff vegetation of the Durham Coast SAC. Nevertheless, this is also not considered to be a significant constraint due to the limited accessibility of the most vulnerable qualifying cliff vegetation habitat features of the coastal SAC.

7.7 The visitor survey covered the whole South Shields and Sunderland coast extending from the Tyne Estuary south as far as Seaham Harbour. Whilst the Sunderland City Council administrative area only covers part of the survey area, it is appropriate to consider the full set of survey results as it is possible that residents within the Sunderland City Council area will travel outside it when participating in recreational activities.

7.8 The results of the survey show that different locations are visited by different numbers of people. There are also differences in the numbers of people who visit sections of coast that form part of an SAC, SPA or Ramsar site compared to sections of coast that are not of European importance.

7.9 The non-breeding bird surveys carried out by Arcus Consultancy Services Ltd (2015) and BSG Ecology (2016) identified that qualifying wintering bird species (purple sandpiper and turnstone) were located outside of the designated areas and consequently these areas are considered likely to be supporting habitat (or functionally linked land) to the SPA / Ramsar. Both species typically favoured littoral rocks and were rarely found using sandy habitats.

7.10 The results of the visitor survey provide a snapshot of visitor behaviour and preferences at the time of the interview. The survey has revealed that people visit the coast with varying frequency and therefore it is important that this is taken into account when analysing the data.

7.11 Durham County Council (Durham County Council, 2014[22]) has previously undertaken a visitor survey of the Durham Heritage Coast and, following consultation with Natural England, the number of visits from each postcode location (grouped into distance bands) were annualised based on the reported frequency of visits over the winter and summer months. Natural England had recommended that a buffer should be adopted around a European site within which 75% of visitors originated[23]. This is based on an approach to data analysis developed by the Solent Mitigation and Disturbance Project[24].

7.12 The survey data for the South Shields and Sunderland coast have also been annualised based on the reported frequency of visits over the winter and summer months (see Appendix 3). The total annualised visits (118,770) were used to derive the 75% significance figure (89,078). Postcode data were then used to estimate the distance travelled by visitors and using this information it was calculated that 75% of visitors travelled less than 6 km.

7.13 Of the 674 interviews that were conducted 318 respondents (47.2%) live within 1 km of the coast (based on postcode). Of these 247 respondents indicated that they visit the coast 2-3 times a week during the winter and 249 indicated that they visit the coast with the same regularity during the summer. This equates to about 37% of respondents are high risk in terms of the recreational pressure that they exert of the coast.

7.14 If the catchment is increased to 2 km from the coast a total of 375 respondents (55.6%) live within this area. Of these 283 visit the coast at least 2-3 times a week during the summer and 288 visit the coast with the same regularity during the summer (equating to about 42% of respondents).

7.15 The non-breeding bird and disturbance surveys carried out in 2014/15 (Arcus Consultancy Services, 2015) identified a total of 2527 disturbance events along the South Shields and Sunderland Coast. Of these 2084 (82.5%) did not affect birds, i.e. they were potential disturbance events based on the activity and the location. Birds were affected in 443 disturbance events and of these 81 involved no avoidance action by the birds – 362 did involve avoidance action. Both turnstone and purple sandpiper were observed to be disturbed by people and dogs using the coast.

7.16 The most frequently recorded form of disturbance, both actual and potential, involved dog walkers with dog(s) off the lead (1,138 out of 2,527 events – 45%). Walkers without dogs were the next most frequent form of disturbance (647 out of 2,527 events – 26%).

7.17 The non-breeding bird and disturbance surveys carried out in 2015/16 (BSG Ecology, 2016) identified a total of 4574 disturbance events along the South Shields and Sunderland Coast. Of these 4425 (96.7%) did not affect birds, i.e. they were potential disturbance events based on the activity and the location. Birds were affected in 149 disturbance events

[22] Durham County Council (2014). The County Durham Plan: Addendum to the Habitat Regulations Assessment of the County Durham Plan Pre-Submission, March 2014.
[23] Durham County Council (2014). The County Durham Plan: Addendum to the Habitat Regulations Assessment of the County Durham Plan Pre-Submission. Published March 2014.
[24] R,Clarke; H, Fearnley; D, Liley; R, Stillman; A, West (2012) The Solent Mitigation and Disturbance Project Footprint Ecology & Bournemouth University.

7.18 Once again the most frequently recorded form of disturbance, both actual and potential, involved dog walkers with dogs off the lead. Of the actual disturbance events that occurred 46.3% were attributed to dogs off the lead (48.0% of potential disturbance events were attributed to dogs off the lead): 20.1% were attributed to walkers without dogs (30.3% of potential disturbance events were attributed to walkers without dogs).

7.19 During these surveys both turnstone and purple sandpiper were observed to be disturbed by people, including those with dogs, using the coast.

Conclusion

7.20 The results of bird surveys complemented by historical data indicate that turnstone and purple sandpiper both use the section of the coast within the Sunderland City Council administrative area and the 6 km visitor pressure catchment. The coast is an important recreational area and consequently is visited by large numbers of people undertaking a range of recreational activity. This inevitably results in the occasional disturbance of birds, including turnstone and purple sandpiper. The little tern nesting sites are sufficiently distant that additional visitor impacts are unlikely: the Crimdon nest site is c.16 km from the Sunderland City Council area and the Beadnell nest site is more than 60 km to the north.

7.21 Analysis of visitor survey data indicates that 75% of all visitors travel from locations within 6 km of the nearest European site. This buffer distance has been applied to the potential housing sites identified during the Strategic Housing Land Availability Assessment (SHLAA) and the Housing Release Sites, an approach that is in line with Durham County Council (who has also adopted a 6 km visitor pressure catchment that is based on the results of a visitor survey).

7.22 Application of a 6 km visitor pressure catchment to the European sites captures all potential housing sites within the Sunderland North, Central and South areas. Consequently all of these sites are considered to have the potential to result in recreational impacts on European sites. All sites from the Coalfield and Washington areas have been scoped out on the basis that they are considered to be sufficiently distant that significant effects on the European sites are unlikely: they are all located outside the 6 km visitor pressure catchment and they are located to the west of the A19, which may help to deter people from visiting the coast.

Recreation – damage to vegetation

Analysis

7.23 Durham Coast SAC is noted for its 'Vegetated sea cliffs of the Atlantic and Baltic Coasts', which comprise a diverse range of plant species a proportion of which are vulnerable to damage through trampling / vehicle disturbance. Table 7 identifies those Durham Coast SSSI units (that are components of the Durham Coast SAC) that are present in the Sunderland City Council administrative area and the 6 km visitor pressure catchment, the most recent condition assessment (completed in 2009) indicating that the units are mostly in 'favourable' condition.

7.24 The vegetated sea cliffs of the Atlantic and Baltic coasts for which the SAC is designated are generally not considered to be vulnerable to trampling related impacts due to the steep nature of the cliff habitats. Access is typically clearly defined by well-used paths and warning signs advise visitors to stay away from the cliff edge. During surveys carried out in 2015 and 2016 (BSG Ecology, 2016) it was noted that many sections of the cliff habitat showed signs of recent slumping and destabilisation (slumping cracks and settlement). It was also noted that people and dogs typically used the well-defined paths or the grassland areas set back from the cliffs, with very few people and dogs walking along the cliff edges (Steven Betts, BSG Ecology, pers. comm.).

7.25 The SSSI condition assessment identifies units 20 and 23 (located to the south of Seaham) as 'unfavourable recovering' and this is reported to be due to mining waste inhibiting the natural erosive processes that are key to the development and maintenance of the cliff vegetation. It is unlikely that recreational impacts from visitors travelling from the Sunderland City Council administrative area, will be contributing significantly to this situation due to the presence of a well-defined network of paths. Furthermore these SSSI units are 4.5 km from the Sunderland City Council administrative area.

Conclusion

7.26 The assessment has concluded that many parts of the Durham Coast SAC are inaccessible to walkers due to the presence of steep cliffs and a clearly defined network of paths. A coastal path runs along the top of the cliffs in many area and warning signs encourage visitors to keep back from the edge. Nevertheless, there are areas where there is the potential for walkers to have a significant effect on the sensitive vegetation, but these are quite distant from the Sunderland City Council administrative area, e.g. Seaham and Whitburn. Whilst visitor pressure could potentially result in the disturbance or loss of some plant species, as well as localised erosion of the soils and vegetation, the likelihood of this occurring is reduced by the distance that visitors would need to travel.

7.27 The visitor survey has demonstrated that people who live within 6 km of the coast may choose to walk there at some point. Consequently any development located within the 6 km visitor pressure catchment has the potential to exacerbate any existing trampling impacts. Consequently all potential housing sites within the Sunderland North, Central and South areas have the potential to result in impacts to the European site.

Recreation – nutrients

Analysis

7.28 SSSI units 10, 14, 15, 20 and 23 are all noted as having some vegetation interest associated with the cliff features; however, unit 10 is the only area where the vegetation is noted as being of reasonable botanical diversity. Influences such as encroaching arable land is noted as affecting units 14 and 15 and, as previously noted, units 20 and 23 are currently affected by the legacy of previous mining activity.

7.29 The most recent condition assessment for the component SSSI units of the SAC does not make any reference to issues related to nutrient enrichment as a result of dog fouling. Access to the coast for dog walkers is via a number of footpaths that link into the main coastal path, and via a limited number of car parks. Consequently dog walking activity is restricted to discrete areas that are away from the main cliff habitat.

7.30 Studies indicate that dogs generally defecate within 400m of a starting point[25]. Along the coast it is unlikely that dog fouling will result in significant nutrient enrichment of sensitive habitats due to various factors including the availability of parking, clearly defined paths, the presence of amenity grassland areas, the presence of signage to keep people away from the sea cliffs. As these factors are unlikely to change in the foreseeable future it is concluded that there is unlikely to be significant nutrient enrichment from dog fouling.

Conclusion

7.31 The most recent SSSI condition assessment provides no evidence that dog fouling is contributing to nutrient enrichment to such an extent that vegetation composition is changing as a result. Many sections are characterised by cliffs that are inaccessible to dogs. Whilst some grassland areas may be susceptible to faecal enrichment, they are generally sufficiently distant from access points that such impacts are unlikely.

[25] 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.

Urban effects

Analysis

7.32 The effects of urbanisation can potentially be wide-ranging but in the context of the Sunderland City Council Core Strategy the following impact mechanisms have been evaluated: fly tipping and cat predation.

Increased fly-tipping

7.33 Whilst the unauthorised tipping of any waste is undesirable, the main concern with regards to impacts on the European sites is the tipping of garden waste. This has the potential to introduce invasive non-native species into the wild, particularly those that are perceived to be causing a nuisance within the garden environment.

7.34 It is reasonable to assume that fly-tipping is most likely to take place in areas that are not overlooked but are readily accessible. It is therefore concluded that the steeply vegetated cliffs of the Durham Coast SAC are unlikely to be targeted by fly-tippers due to their limited accessibility. Furthermore the coastal environment is likely to be unfavourable to many species due to the exposure and the influence of sea water. It follows that the risk of non-native plant species being introduced and becoming established is negligible.

Cat predation

7.35 A survey undertaken in 1997 indicated that nine million British cats brought home 92 million prey items over a five-month period[26]. One study has shown that domestic cats will roam up to 400m[27]. In a second study the distance travelled by individual cats from focal sites did not significantly differ between males (mean ± SE = 232.00 ± 21.05 m; median = 191 m) and females (mean ± SE = 232.50 ± 12.47 m; median = 228 m), with maximum distances of 1.5 km for males and 1.1 km for females[28].

7.36 The effects of cat predation have previously been subject to extensive research with regard to the Thames Basin Heaths SPA. This resulted in the publication of guidance[29], which included the requirement to adopt a 400m buffer around an SPA boundary to protect the European site from the direct effects of urbanisation, including bird predation by domestic cats.

7.37 The Northumbria Coast SPA interest features that are at most risk from cat predation are turnstone and purple sandpiper. Turnstone and purple sandpiper both favour littoral rock and other intertidal habitats, which is considered to be unfavourable to cats. This is supported by the results of the surveys undertaken in 2014/15 (Arcus Consultancy Services, 2015) and 2015/16 (BSG Ecology, 2016) neither of which reported any disturbance event that was attributable to a domestic cat.

7.38 The Northumbria Coast SPA is also noted for breeding little tern; however, the nearest little tern nesting colony is located at Crimdon, c.16 km to the south of Sunderland City Council area. This is sufficiently distant that predation impacts are considered to be highly unlikely.

[26] The Mammal Society (1997). Domestic Cat Predation on Wildlife, by M. Woods, R.A. McDonald and S. Harris.
[27] Turner, D.C. & Meister, O. (1988). Hunting behaviour of the domestic cat. In The Domestic Cat: the Biology of its Behaviour (ed. Turner, D.C. & Bateson, P.). Cambridge University Press.
[28] Wierzbowskaa, I.A., Olkoa,J., Hędrzakb, M. & Crooks, K.R. (2012). Free-ranging domestic cats reduce the effective protected area of a Polish national park, Mammalian Biology, Volume 77, Issue 3, May 2012, Pages 204–210.
[29] Thames Basin Heaths Joint Strategic Partnership Board (2009). Thames Basin Heaths Special Protection Area Delivery Framework. Published on behalf of the Thames Basin Heaths Joint Strategic Partnership Board by the South East England Regional Assembly, March 2009.

Conclusion

7.39 Flytipping and the introduction of non-native species is not likely to have a significant effect on any European site. This conclusion is reached by virtue of the fact that the majority of the coast is difficult to access and the conditions are not likely to favour the establishment of many species. There are no records of non-native species becoming established along the coast.

7.40 Cat predation is not likely to have a significant effect on the Northumbria Coast SPA due to the limited range of most domestic cats and the habitat preferences of turnstone and purple sandpiper. This is supported by the results of surveys undertaken in between 2014 and 2016 which did not identify any disturbance event that was attributable to a domestic cat.

7.41 It is concluded that flytipping and cat predation are unlikely to have a significant effect on any European site and for this reason urban effects have been scoped out the assessment.

Coastal squeeze

Analysis

7.42 The Shoreline Management Plan (Royal Haskoning, 2007) reports that '*there is increasing pressure on coastal defences, with the potential threat of the low water mark moving landward and causing steepening of beaches, increased pressure on defences and loss of amenity. The plan recommends the need to build greater width into the defence systems to take account of this; either, in the case of South Tyneside and areas of Sunderland, by allowing or looking for opportunity to create width for retreat of defences or, in the case of north Sunderland, by attempting to manage the beaches to greater effect. Where feasible, the plan has recommended no further construction of defences, allowing the cliffs to erode naturally, but this requires full involvement with the planning authorities in controlling land use. Only really to the south of Sunderland is a significant change made to policy, where there is both coastal squeeze against the cliffs but also squeeze of the open cliff top land against established development*'.

7.43 Coastal protection objectives are set out within the Shoreline Management Plan and these reflect the need to protect existing urban infrastructure. A 'hold the line' policy is to be adopted between South Bents and Hendon Seawall, the potential result of this being that the erosion-colonisation pattern of vegetation development along the shore is interrupted. From Hendon Seawall to Pincushion the proposal is for 'retreat or realignment' and from Pincushion to Seaham the proposal is for 'no active intervention' over the same timeframe. These policies provide greater scope for the maintenance of the SAC vegetation, although this is difficult to predict. These policies will be implemented irrespective of the proposed objectives, proposals and policies within the Core Strategy.

Conclusion

7.44 Cliff retreat by natural erosion is predicted to be 1.0 m yr^{-1} at Salterfen and 0.4 m yr^{-1} at Pincushion (Royal Haskoning, 2007). The nearest potential housing sites are located to the west of the A1018 near Pincushion, which is approximately 130m from the existing cliff line. It is noted that existing housing and associated infrastructure already defines the extent of the urban area, and hence the location at which action is likely to be required to prevent the loss or damage of these assets. Consequently any future development in this area is not considered likely to affect coastal defence policy in the long term. Salterfen is covered by a 'hold the line' policy and so any development in this area is also unlikely to influence coastal defence policy.

Air quality

Analysis

7.45 The A183 coast road lies within 200 m of parts the Durham Coast SAC boundary, and therefore with an increase in housing provision there is the potential for an increase in traffic movements along the road such that changes in air quality may occur. This has the potential to result in increases in atmospheric nitrogen deposition.

7.46 The majority of the anticipated residential development sites are located within established urban areas away from the coast. It is expected that trips between work and home will utilise the existing inland road network, thereby reducing pressure on the A183 coast road.

7.47 As previously noted in Section 4.14, demographic data analysis (Edge Analytics, 2016[30]) shows that a small proportion of residents of Sunderland work in County Durham, and a small proportion of people who work in Sunderland live in County Durham. Consequently it is expected that traffic movement in the vicinity of the Durham Coast SAC will not experience a significant increase in traffic levels. Traffic modelling data[31] show that significant traffic increases are not predicted in the southern part of the area. More detailed analysis of modelling data will be carried out to inform the HRA for the Allocations and Designations Plan.

Conclusion

7.48 The littoral rock and intertidal habitats (sandflats and mudflats) associated with the Northumbria Coast SPA and Ramsar are not considered to be susceptible to the effects of air pollution. The Air Pollution Information System (APIS) website[32] indicates that the designated feature of the Durham Coast SAC ('vegetated sea cliffs') is susceptible to the effects of nutrient nitrogen but not to acidity.

7.49 The APIS database does not list a critical load for nitrogen deposition for the Durham Coast SAC, but the annual nitrogen deposition rates are 10.08 – 16.94 kg N/ha/yr. The effects of nitrogen enrichment arising from air borne pollutants needs to be considered against naturally occurring sources, such as cliff nesting birds. Furthermore, the botanical interest of the Durham Coast SAC develops as a result of natural erosive processes, which means that vegetation can be ephemeral. Nevertheless, nutrient enrichment impacts are still possible.

Summary of potential effects

7.50 Table 12 summarises the potential impacts and effects that may arise through the implementation of the Core Strategy and Development Plan.

Table 12: Outcome of data analysis of potential impact pathways on European sites

Qualifying features	Potential Source	Potential Impact	Impact Pathway Screening	Potential for Likely Significant Effects
Durham Coast SAC Vegetated sea cliffs of the Atlantic and Baltic Coasts	Damage or disturbance of sensitive vegetation	Localised damage of vegetation by trampling etc and ground compaction	Access is limited to the cliffs that support SAC habitat. Off-road vehicle use is limited and some signage has been provided to advise the public.	No
	Nutrient enrichment from dog faeces	Dog fouling may result in localised nutrient enrichment and this may favour more competitive species	Negligible contribution to nutrient enrichment and no evidence of current enrichment. Fouling is likely to be restricted to area around parking sites.	No

[30] Edge Analytics (2016). Sunderland: Updating the Demographic Evidence. Published October 2016
[31] Capita (2017). Sunderland Local Plan: Initial Assessment of Transport Impacts. Published April 2017
[32] http://www.apis.ac.uk/

Qualifying features	Potential Source	Potential Impact	Impact Pathway Screening	Potential for Likely Significant Effects
	Fly tipping	Increased risk of non-native species being spread into the wild	Negligible risk due to poor accessibility of the site and environmental conditions	No
	Coastal squeeze	'Hold the line' policy may result in habitat loss where natural landward erosion is limited.	The proposed policies and housing sites will not affect the SMP policy and so no additional impact is likely. Current shoreline management policy does not conflict with core strategy development.	No
	Water quality	Adverse effects on water quality due to increased pollutant loadings.	No impact pathway identified. The SAC habitat is not vulnerable to changes in water quality.	No
	Air quality	Nitrogen deposition from increased traffic from residential areas may result in changes to vegetation assemblages	Potential for increased nitrogen deposition to affect species composition and abundance.	No
Northumbria Coast SPA / Ramsar Little tern	disturbance	No impact mechanism identified due to distance	No impact mechanism identified due to distance	No
	predation	No impact mechanism identified due to distance	No impact mechanism identified due to distance	No
Northumbria Coast SPA / Ramsar Turnstone	disturbance	Disturbance to wintering birds resulting in impacts on winter survival rates and hence the numbers of turnstone using coastal wintering habitats.	Residents within 6 km of the site may result in recreational disturbance impacts on birds, particularly those residents who have dogs.	Yes

Qualifying features	Potential Source	Potential Impact	Impact Pathway Screening	Potential for Likely Significant Effects
	predation	No impact mechanism identified due to bird distribution	No impact pathway identified. Wintering birds not vulnerable to cat predation.	No
Northumbria Coast SPA / Ramsar Purple sandpiper	disturbance	Disturbance to wintering birds resulting in impacts on winter survival rates and hence the numbers of purple sandpiper using coastal wintering habitats.	Residents within 6 km of the site may result in recreational disturbance impacts on birds, particularly those residents who have dogs.	Yes
	predation	No impact mechanism identified due to bird distribution	No impact pathway identified. Wintering birds not vulnerable to cat predation.	No

Policy Review

7.51 A review of the policies presented in the draft Core Strategy and Development Plan Consultation Document has identified a number of policies where further assessment is needed to determine whether adverse effects on site integrity can be ruled out following further consideration of available information and evidence. The assessment of these policies is presented in Table 13. In all cases additional text is proposed to address any identified issue.

7.52 In its present form Policy E7: Biodiversity and Geodiversity does not address the requirement for HRA to be completed for certain development proposals; however, the policy does make reference to the legal tests that will need to be considered planning permission is granted for a proposal that would adversely affect a European site. Furthermore, the policy is supported by the following text within the main body of the strategy:

7.53 'Any proposal that is likely to have a significant effect on a European site, either alone or in-combination with other plans or projects, will need to undertake a Habitats Regulations Assessment. If necessary, developer contributions or conditions will be secured to implement measures to ensure avoidance or mitigation of adverse effects.

7.54 Proposals for development or land use that would adversely affect a European Site, either individually or in combination with other plans or projects, will only be permitted where the developer can demonstrate that there are imperative reasons of overriding public interest, including those of a social or economic nature, and there is no alternative solution.'

Table 13: Sunderland Core Strategy Policy review

Policy	Issue	Resolution
Policy SA3: Housing Release Sites	The policy identifies 15 housing release sites within the Sunderland City Council administrative area; however, only 3 of these sites are within the 6 km visitor impact catchment: HRS9, HRS10 and HRS11.	Policy E7 and its supporting text will ensure that impacts on European sites are fully considered. Each of the 3 sites within the visitor impact catchment will need to be assessed to determine potential impacts on the European sites and appropriate mitigation provided.
Policy HWS3: Culture, Leisure and Tourism	This policy includes leisure and tourism proposals at Seaburn seafront, which may attract more visitors and result in increased recreational impacts on European sites.	Policy E7 and its supporting text will ensure that impacts on European sites are fully considered. Mitigation and compensation that will be put in place as part of the Seaburn development may also benefit wider leisure and tourism proposals in the area.
Policy H6: Travelling Showpeople, Gypsies and Travellers	This policy identifies provision at locations that are relatively close to the European sites. Whilst three location options are being considered only one will be brought forward. The selected site will be managed by the council, who will ensure that it is operated as a stop-over site with temporary short-term usage only.	Policy E7 and its supporting text will ensure that impacts on European sites are fully considered. Mitigation provided to offset impacts associated with residential development will also benefit any site identified for Travelling Showpeople, Gypsies and Travellers.
Policy H8: Housing in Multiple Occupation	Multiple occupation of properties has the potential to result in local population increases and increased traffic volume due to more cars per residence. Significant effects on European sites cannot be ruled out if HMO development is in close proximity.	Policy E7 and its supporting text will ensure that impacts on European sites are fully considered.
Policy H9: Backland and Tandem Development	Whilst new development within the curtilage of an existing property (within 6 km of the coast) may only result in small-scale localised increases in the population, there is the potential for cumulative effects over the life of the plan. Significant effects on European sites cannot be ruled out.	Policy E7 and its supporting text will ensure that impacts on European sites are fully considered.

Policy	Issue	Resolution
Policy EP1: Economic Growth	This policy includes support for exploiting the potential of the Port of Sunderland to generate economic growth, utilising its status as an Enterprise Zone.	The Port of Sunderland's growth proposals are currently subject to a separate HRA. Notwithstanding this, Policy E7 and its supporting text will ensure that impacts on European sites are fully considered.
Policy E7: Biodiversity and Geodiversity	This policy seeks to protect biodiversity including European sites. The policy does not specifically consider the requirement for HRA.	The supporting text for this policy includes reference to the need for certain development to undertake HRA. This recognises the fact that impacts can potentially be wide-ranging.
Policy CC4: Port of Sunderland	The reinvigoration and future development of the Port of Sunderland has the potential to impact on birds using the adjacent section of coast. Whilst the Port is outside the SPA / Ramsar it is considered to have a supporting role as both purple sandpiper and turnstone have been recorded here.	The Port of Sunderland's growth proposals are currently subject to a separate HRA. Notwithstanding this, Policy E7 and its supporting text will ensure that impacts on European sites are fully considered.

Predicted effects of housing sites

Previous Assessments

7.55 Most of the proposed housing sites will be set out within the Allocations and Designation Plan, which has yet to be prepared; however, the Core Strategy does allocate the 4 SSGA sites under Policy SA2 and the 15 Housing Release sites under Policy SA3. It is understood that the Allocations and Designation Plan is likely to bring forward 130 SHLAA sites (the SHLAA identifies the quantum of development and provides an indication of potential site locations). Of these 75 are located within the 6 km visitor pressure catchment. In addition, of the 15 Housing Release Sites that will be brought forward under Policy SA3, 3 are located within the 6 km visitor pressure catchment.

7.56 For the purposes of the HRA the proposed quantum of housing (as identified within the SHLAA) has been considered for the following discrete areas:

- North Sunderland (North Sunderland SPD): 18 sites (1160 dwellings)
- South Sunderland: 41 sites (4795 dwellings) including the SSGA sites
- Central Sunderland: 16 sites (717 dwellings)

7.57 North Sunderland includes the Seaburn development site and South Sunderland includes the South Sunderland Growth Area sites (all of which have been subject to separate HRAs). The North Sunderland SPD area is subject to a separate HRA, which is currently being finalised.

7.58 The Seaburn development will deliver 459 dwellings and so these have been removed from the assessment, giving a total of 701 dwellings for the North Sunderland area. The SSGA will deliver 2165 dwellings and so these have also been removed from the assessment, giving a total of 2630 dwellings for the South Sunderland area.

7.59 The three housing release sites within the 6 km visitor pressure catchment will contribute the following dwellings to the overall provision: HRS9 – 135 dwellings; HRS10 – 82 dwellings; HRS11 – 70 dwellings. This gives a total number of dwellings of 287 dwellings that will come from housing release sites. The total number of dwellings being considered in the HRA is therefore 717 + 701 + 2630 + 287 = 4335.

Predicted increase in visitor pressure

7.60 The proposed housing sites (excluding the SSGA and Seaburn developments) would provide an estimated 4335 dwellings within the 6 km visitor pressure catchment. This compares with a total of 12,337 dwellings that will be provided throughout the total Sunderland City Council administrative area over the remainder of the plan period.

7.61 The current population of Sunderland is 277,150[33]. The demographic modelling work undertaken by Edge Analytics indicates a population growth of 16,516[34], and so the predicted future population of Sunderland is 293,666. The current housing stock is estimated to be 127,393[35] and the number of dwellings that are proposed is 12,337[36]. Consequently the predicted future housing stock is 139,730. Modelling by Edge Analytics predicts a 2.9% vacancy rate, which would mean that the future population of 293,666 will be accommodated in 135,678 dwellings. This equates to an average household size of 2.16 within the Sunderland City Council administrative area.

7.62 The HRA completed for the South Sunderland Growth Area included a crude estimate of predicted recreational disturbance arising from the proposed development. This involved comparing the predicted future population with the existing population and relating this to current levels of recreational activity. This approach has also been adopted in this assessment.

7.63 The existing population within the 6 km visitor pressure catchment (that has been applied to those sections of the European sites that will potentially be affected by the Sunderland City Council Local Plan) is estimated to be 255,741. The population has been estimated by adding together the population estimates for those wards located within the 6 km visitor pressure catchment, which includes wards from Durham and South Tyneside as well as Sunderland (see Table 14 - It is possible that development may be proposed in the future within the 6 km visitor pressure catchment that extends into Durham and South Tyneside; however, at the present time limited information is available on the quantum and location of this development).

7.64 A proportion of the predicted population increase of 16,516 will be resident within the 6 km visitor pressure catchment: the proposed housing sites (excluding the SSGA and Seaburn developments) would provide an estimated 4,335 dwellings within the 6 km visitor pressure catchment, supporting a population of c.9,364 (assuming an average household size of 2.16). This represents a 3.7% increase in the population that may potentially contribute to recreational impacts at the coast.

7.65 If it is assumed that the new population is just as likely to participate in recreation at the coast as the existing population, disturbance events are likely to increase by at least 3.7%. This figure is considered to be precautionary and assumes that everybody within the 6 km visitor pressure catchment is equally likely to visit the coast. In reality this is unlikely to be the case as visitor behaviour will be influenced by a range of factors including age, health, distance, mode of transport, transport efficiency, site accessibility, reason for the visit, availability of alternatives etc.

[33] ONS 2015 Mid-Year Population Estimate.
[34] Population estimate based on the Jobs-led Experian SENS A scenario.
[35] Arc4 (2016). Sunderland Objectively Assessed Need and Strategic Housing Market Assessment Update.
[36] Sunderland North 18 sites (1160 dwellings), Sunderland South 41 sites (4795 dwellings), Sunderland Central 16 sites (717 dwellings), Coalfield 45 sites (3235 dwellings), Washington 14 sites (884 dwellings), 15 Housing Release Sites (1546 dwellings).

Table 14: Population by ward within 6 km of the European sites located within the Sunderland City Council administrative area

Sunderland City Council wards		South Tyneside Council wards		Durham County Council wards	
Ward	**Population**	**Ward**	**Population**	**Ward**	**Population**
St Peters	10605	Whitburn & Marsden	7448	Easington	7693
Fulwell	11604	Cleadon & East Boldon	8457	Murton	7975
Southwick	10535	Boldon Colliery	9227	Seaham	8419
Redhill	11388	Cleadon Park	6890		
Castle	10968	Whiteleas	8259		
St Anne's	11067	Riddick & All Saints	8678		
Pallion	10117	Harton	8409		
Millfield	11958				
Hendon	12597				
St Michael's	10998				
Barnes	10987				
Sandhill	11128				
St Chad's	9449				
Silksworth	10531				
Ryhope	10484				
Doxford	9870				
SUB TOTAL	**174286**		**57368**		**24087**
TOTAL	**255741**				

Predicted impacts on SPA / Ramsar wintering birds

7.66 Surveys carried out during the winters of 2014/15 and 2015/16 (Arcus Consultancy Services, 2015; BSG Ecology, 2016) revealed that purple sandpiper has a restricted distribution within the authority's area. The species was recorded regularly on the rocky shore to the north of South Bents, with the area around Whitburn being one of the more regularly used areas of shore. This species was also recorded along the south-west breakwater in the Port of Sunderland, at Salterfen Rocks and in the vicinity of the harbour at Seaham.

7.67 Recreational disturbance of purple sandpiper is possible in those areas where favoured habitat is close to areas that attract visitors. The sandy beach at Whitburn Bay has been shown to attract large numbers of visitors and, whilst many of these visitors will not venture north as far as the rocks at South Bents, some do walk this far. Walkers, particularly those with dogs off the lead, therefore have the potential to disturb birds that are using this part of the shore.

7.68 Whilst some disturbance is possible, it is expected that the majority of visitors will avoid the littoral rock as it is uneven and can be very slippery making walking challenging. The presence of clearly defined footpaths and signage above the high tide mark means that recreation is likely to be focussed in these areas.

7.69 The Port of Sunderland is not accessible to the public and so recreational access is unlikely. Whilst the port is a busy place where activities could potentially result in the disturbance of birds, the coastal boundary of the port is typically difficult to access and the topography of the shore is likely to provide screening in many places (to visual and noise disturbance for example, which may arise from current and future development). There has been little evidence of bird disturbance in this area (Arcus Consultancy Services, 2015; BSG Ecology, 2016).

7.70 The Port of Sunderland has produced its own masterplan and the future development proposals for the port are subject to a separate HRA, which is currently in preparation. Impacts arising from the future development proposals are also considered in combination with the Core Strategy and Development Plan in Section 9.

7.71 Public access at Salterfen Rocks is limited by the nature of the rocky shore, which comprises large boulders that are the result of past cliff erosion. Safe access to the shore is difficult due to the terrain and the fact that the rocks can be very slippery. This is likely to limit the potential for birds to be disturbed by visitors.

7.72 Turnstone is more widespread having been recorded on most sections of the shore where littoral rock is present, as well as piers. Although this species is more widespread, in many locations the numbers of birds were low indicating that many areas are used on an occasional basis. Turnstone was rarely recorded using sandy habitats.

7.73 Whilst visitors may disturb turnstone that are feeding or roosting along the shore, there is evidence that this species is tolerant of people: there is anecdotal evidence that birds readily approach anglers (this may be because of the availability of bait).

8 Mitigation Measures

Mitigating Adverse Effects

8.1 Residential development within 6 km of the European sites has the potential to result in increased visitor pressure, which may in turn result in increased recreational disturbance of birds. To mitigate this potential impact it is proposed to divert recreational activity elsewhere and to put management measures in place to control visitor behaviour at the European sites.

8.2 It is proposed to mitigate impacts by adopting a suite of measures that can be broadly categorised as:

- Provision of Areas of Additional Natural Greenspace (AANG);
- Strategic Access Management and Monitoring (SAMM).

8.3 The purpose of AANG is to provide an attractive alternative recreational space that may be used preferentially by visitors, thereby reducing visitor pressure at the coast. If an AANG is going to achieve this purpose then it must be located appropriately and designed to meet the needs of a particular recreational activity.

8.4 The purpose of SAMM is to control visitor behaviour at sensitive locations and to directly discourage undesired recreational activities at the European sites. SAMM necessarily involves management intervention and monitoring may be used to measure effectiveness and to trigger changes in the approach to management.

Likelihood of effectiveness

8.5 A visitor survey undertaken by Bluegrass during the period November 2014 to April 2015 (i.e. the winter period when purple sandpiper and turnstone are present) on behalf of Sunderland City Council and South Tyneside Council, found that 91% of respondents visited the beach and 63% of walks (Sunderland data) were to walk dogs. Further survey work carried out during the period January to March 2016 found that 65% of walks (Sunderland data) were to walk dogs.

8.6 When asked if they would use suitable green space if it was closer to home 39% of respondents in 2014/15 (Sunderland data) indicated that they would probably use it some of the time and 45% indicated that they would probably use it most of the time. This indicates that the Areas of Additional Natural Greenspace (AANG) could significantly reduce dog-walking by changing the behaviour of up to 84% of visitors.

8.7 In the 2016 survey 30% of respondents walked their dog at the coast as there was nowhere suitable close to home, and of those people over half (54%) indicated that they would use suitable greenspace some or most of the time if available close to home.

8.8 Just under half the dog walkers (47%) in 2014/15 indicated that they visited daily or almost every day, with 28% indicating that they visited the coast 2-3 times a week. In 2016 24% of respondents indicated that they visited the site at least once a day and a further 24% stated that they visited the site about twice a week.

8.9 The design and effectiveness of additional natural greenspace has previously been reviewed as part of the HRA for the SSGA (URS, 2015). It was noted that guidance on alternative natural greenspace published by Hampshire County Council[37], in association with the Kennel Club, reported that dog owners travel on average 400-500m to reach greenspace for dog-walking.

[37] Hampshire County Council (2013). *Planning for Dog Ownership in New Developments: Reducing Conflict – Adding Value*. Hampshire County Council.

8.10 Guidance published by Natural England[38] for Suitable Alternative Natural Greenspace (SANG) for the Thames Basin Heaths Planning Zone recommended that SANG sites should be within 400m of the linked developments.

8.11 Data collected by the Pet Food Manufacturers Association[39] indicates that 24% of households own dogs. As the proposed Housing Release Sites and SHLAA sites (excluding the SSGA and Seaburn sites) would provide an estimated 4,335 dwellings within the 6 km visitor pressure buffer, this equates to an additional 1,040 dogs that will need to be walked. Applying the visitor survey data, 47% of these dogs (489) will be walked daily or almost every day. It is evident that there is potential for dog walking within and near the European sites to increase (by at least 3.7%) and therefore the provision of AANG is necessary to offset the predicted impacts.

Greenspace area requirements

8.12 The existing population is currently utilising accessible greenspace along the Sunderland coast: this includes all accessible land extending down to the low tide mark, all coastal amenity land and rough grassland, promenades, public rights of way etc. The area of this habitat within the 6 km visitor pressure catchment is estimated to be 217 ha.

8.13 If it is assumed that the proposed housing sites will collectively result in a 3.7% increase in visitor pressure then a similar increase in greenspace will be the minimum area required to absorb this pressure. This amounts to c.8.0 ha of greenspace. However, this approach is based on the assumption that the existing greenspace has no capacity to absorb additional recreational activity, which is not considered to be the case within the Plan area.

8.14 As noted previously, purple sandpiper has a limited distribution along the coast and, of the key locations that have been identified for this species, the area at South Bents is the only area where recreational disturbance could be a significant issue. Whilst turnstone is more widespread, this species appears to be more adaptable in response to disturbance.

8.15 It is considered that increased recreational use is not desirable at the following locations within the Sunderland City Council administrative area due to the presence of purple sandpiper and turnstone (and hence there is the potential to disturb these species at these locations):

- The area north of Parson's Rocks (including Parson's Rocks and South Bents).
- Intertidal areas between Port of Sunderland and Salterfen Rocks (the terrestrial habitats in these areas are however, considered to be capable of accommodating more recreational use).

8.16 In addition, surveys have also revealed that the coast at Whitburn and Seaham is important for a range of waders including purple sandpiper and turnstone. Both of these areas are within the 6 km visitor pressure catchment for residents of the Sunderland City Council administrative area.

8.17 To the south of Salterfen Rocks the eroding cliffs significantly restrict access to the intertidal habitat used by purple sandpiper and turnstone, and so significant increased recreational use of these areas is not anticipated. Recreational use of the grassland adjacent to the sea cliffs is not likely to result in significant additional disturbance of purple sandpiper and turnstone using the intertidal habitats.

8.18 The area extending along the western side of the Port of Sunderland south as far as Ryhope Dene is considered to have potential to support additional recreational activity without having an adverse effect on the integrity of the European site. This area includes the route of the England Coast Path, which runs alongside eroding sea cliffs, which limit access to the shore. Similarly the areas adjacent to the sea cliffs at the Leas and in the vicinity of Souter lighthouse in South Tyneside, also have the potential to support additional recreational activity, as does Roker beach. This amounts to c.178 ha in total that may have capacity to support additional recreational activity, i.e. there is 39 ha of land where additional recreational pressure may not be desirable.

[38] Royal Borough of Windsor & Maidenhead (2010). Thames Basin Heaths Special Protection Area Supplementary Planning Document (Part 1). Royal Borough of Windsor & Maidenhead.
[39] http://www.pfma.org.uk/statistics

8.19 The HRA completed for the SSGA concludes that the area of habitat calculated using the above method may not be adequate for various reasons, a key reason being that an AANG will not be able to replicate the coastal habitat that attracts visitors, which may reduce its effectiveness (URS, 2015). Notwithstanding this, there is land along the coast that could potentially be used to mitigate recreational impacts.

8.20 Another key reason that was highlighted with the SSGA HRA was the proximity of the proposed development sites to the European sites (which led to the conclusion that regular access to the coast was more likely). For this reason Natural England's SANG guidance was adopted to calculate an appropriate area of greenspace, and this recommends provision at the rate of 8 ha per 1000 population.

8.21 It is not considered appropriate to apply the Natural England SANG guidance to all the proposed housing located within the 6 km visitor pressure catchment due to the location of the most sensitive areas for birds, the location of the areas of most sensitive habitat, the presence of existing green infrastructure and the distance of the proposed housing sites from the coast. Previous HRA has resulted in a requirement to provide greenspace as part of the proposed development at the SSGA and Seaburn, and this may have benefits that extend beyond the development limits, i.e. high quality greenspace provided in these areas may also attract visitors who live elsewhere. If greenspace is effective in attracting visitors who would otherwise have visited the coast, this would have a positive effect on the European sites irrespective of where the visitors have come from.

8.22 As previously noted the section of the coast that is considered to be most susceptible to disturbance impacts is to the north of the Wear Estuary from Parson's Rocks northwards. Within North Sunderland there are 18 SHLAA sites and 2 proposed Housing Release Sites (HRS9 and HRS10) that will collectively deliver 918 homes (excluding the Seaburn development that has been subject to a separate HRA). There are currently significant areas of accessible greenspace within North Sunderland that are likely to attract visitors, particularly those people living in sites that are distant from the coast, e.g. Fulwell Quarry Local Nature Reserve (LNR), Hylton Dene LNR and the north bank of the River Wear where there is the River Wear trail). In some areas the habitats are designated as a Local Wildlife Site or Local Nature Reserve due to their ecological importance and so it is important that these are protected with non-designated areas becoming the focus of future recreational initiatives.

8.23 To the south of the River Wear there are significant areas of accessible greenspace at Barnes Park, Silksworth, Tunstall Hills and Farringdon. All of these areas are likely to attract new visitors, particularly as access to the coast to the south of the Wear Estuary is limited by the presence of the Port of Sunderland. Parking is available along the Promenade to the south of the Port, but to the south of Salterfen Rocks parking opportunities are limited. This section of the coast is dominated by unstable sea cliffs, which will limit access to those intertidal areas that are used by waders.

8.24 HRA has already been carried out for some of the proposed housing sites and this has resulted in the requirement to provide the following areas of AANG:

- North Sunderland Growth Area: 10.0 ha
- South Sunderland Growth Area: 43 ha
- Seaburn Area: 13 ha

8.25 This provides an existing AANG commitment of 66 ha.

8.26 Whilst a 6 km visitor pressure catchment has been defined, it is reasonable to assume that the frequency of visits to the coast is likely to decrease with distance travelled, i.e. people who live close to the coast are likely to visit it more frequently than people living further away. Taking this into account, together with the availability of existing and proposed accessible local greenspace and the requirement to incorporate greenspace into some development sites, it is concluded that the current provision of greenspace outside development sites is adequate to mitigate the proposed quantum of development.

8.27 If the existing and proposed greenspace is to function effectively it is possible that enhancement may be required to make these areas more attractive to visitors. It is also possible that additional management will be required to ensure that the greenspace remains fit-for-purpose and that there is no long-term deterioration as a result of increased use.

Greenspace location and connectivity

8.28 Published guidance on alternative natural greenspace (e.g. Hampshire County Council[40]) reports that dog owners have been found to travel on average 400-500m to reach greenspace to walk their dogs. A significant proportion of the new residential population would be within 400m of existing or proposed greenspace, which leads to the conclusion that there is a high likelihood that dog walkers will use these areas. Some published guidance[41] has also concluded that areas of green infrastructure could (if appropriately designed) potentially draw some users from up to 2 km away.

8.29 A key objective of AANG is to attract dog-walkers, and for this reason it is important that areas of greenspace are large enough to allow visitors to undertake circular walks of sufficient distance. The Thames Basin Heaths SANG guidance recommends a walking distance of 2.3-2.5 km, which is based on the results of visitor surveys. Many of the available greenspace areas are capable of delivering walks of this duration, either within an individual site or where there is a short link to an adjacent area of greenspace.

8.30 In the following sections greenspace provision is described. This includes existing areas that have been identified for appropriate management and enhancement, existing commitments arising from past HRA, and additional requirements.

North Sunderland Growth Area

8.31 SHLAA site 467c (land to the north of Thornbeck College) has been identified for use as recreational greenspace, including sports pitches and pigeon crees (huts). Whilst these uses will limit the area available for walking / dog walking, it should be possible to provide a walking route around the boundary of the site. This will link up to fields to the north that have been identified for greenspace provision.

8.32 Fulwell Quarry is currently used for recreation and this area is likely to attract new visitors. Whilst recreational use of the area designated as SSSI will need to be carefully controlled and managed to ensure that there is no degradation of the botanical interest of the site, the adjacent areas designated as Local Nature Reserve referred to below may also be able to accommodate additional visitors without having an adverse effect on the ecological interest of the site.

8.33 Hylton Dene Local Nature Reserve may also be able to accommodate additional visitors, this area including a section of the Great North Forest Heritage Trail, which provides longer distance walking options.

8.34 A number of SHLAA sites are located in the existing urban area between Fulwell Quarry and Hylton Dene (a masterplan is currently being prepared). If visitors are to be attracted to these sites it is important that there are clearly marked routes that provide safe access. This is currently being investigated for the allotments north of Redcar Road and for SHLAA site 175, which would need to include a pedestrian access route north to Fulwell Quarry.

8.35 The north bank of the River Wear where there is the River Wear Trail, may provide recreational options, although the distance of this from the proposed housing sites means that its value is likely to be enhanced through parking provision. Baron's Quay Wood is a Local Wildlife Site (LWS) and so any recreation initiative should focus on non-designated sites and should seek to protect the ecological integrity of the LWS.

[40] Hampshire County Council (2013). *Planning for Dog Ownership in New Developments: Reducing Conflict – Adding Value*. Hampshire County Council.
[41] Royal Borough of Windsor & Maidenhead (2010). *Thames Basin Heaths Special Protection Area Supplementary Planning Document (Part 1)*. Royal Borough of Windsor & Maidenhead

8.36 Sunderland City Council is commissioning a Green Infrastructure Study and it is expected that the results of this study will help guide the creation of a coherent habitat network that will deliver both biodiversity and recreation objectives. It will identify those sites that are currently of high ecological importance, and will seek to direct recreational initiatives away from those areas.

Seaburn Development Area

8.37 The proposed development at Seaburn (SHLAA sites 154A and 154B) includes c.8.85 ha of greenspace provision on the site of a seasonal caravanning area. There is also a requirement to complement this by providing 4.2 ha of greenspace within the development. These areas will be connected by green links to provide a network of recreational space that will provide options for short duration, locally based recreational activity.

South Sunderland Growth Area

8.38 The SSGA HRA identified the need for alternative greenspace to be provided to mitigate identified impacts on European sites. The required area was calculated with reference to the Natural England SANG guidance, which recommends a rate of 8 ha per 1000 population. It was estimated that the Chapelgarth, Land North of Burdon Lane and Cherry Knowle development sites will support populations of 1476, 2168 and 1748 respectively, and will therefore be required to supply 11.8 ha, 17.3 ha and 14.0 ha of greenspace respectively, giving a combined provision of 43.1 ha.

8.39 The HRA notes that the greenspace provision for 'Land North of Burdon Lane' and 'Cherry Knowle' are close enough to be considered as a single linked unit amounting to around 31 ha. This area of greenspace could potentially draw some users from up to a 5 km radius, and may therefore have the potential to also alleviate some of the existing visitor pressure on the European sites.

8.40 Provision of greenspace within the South Ryhope development site is not considered feasible due to its smaller size and close proximity to the coast (URS, 2015). The HRA recommended that alternative dog walking areas could be provided by upgrading the Route 1 Mineral Line green link and the green link connecting to the Cherry Knowle greenspace.

Wider South Sunderland Development Area

8.41 In South Sunderland there are significant areas of accessible greenspace at Barnes Park, Silksworth, Tunstall Hills and Farringdon. At Barnes Park a network of footpaths follows the Barnes Burn providing an extensive walking area offering a range of walking routes of varying length. The sites at Silksworth, Tunstall Hills and Farringdon each provide a range of walking route options; however, the Silksworth and Farringdon sites are linked by a strip of amenity grassland, and the Silksworth and Tunstall Hills sites are linked by a footpath that follows a disused railway line. Consequently these sites already provide an extensive linked network of greenspace which is available for recreational purposes.

8.42 Tunstall Hills is a Local Nature Reserve this is understood to be heavily used by dog walkers at the present time. An assessment is therefore required to determine whether or not further recreational use is possible without compromising the ecological integrity of the site and its conservation objectives.

Greenspace within development sites

8.43 If greenspace is to achieve the key objective of attracting dog walkers, thereby reducing visitor pressure on the coast, there is a minimum size requirement that will need to be met. As previously noted the Thames Basin Heaths SANG guidance recommends a walking distance of 2.3-2.5 km, which could, for example, be achieved using a large area of greenspace or several small areas that are linked by footpaths.

8.44 Some of the proposed housing sites are too small to accommodate areas of greenspace that are large enough to achieve the key objective of attracting significant numbers of visitors. Nevertheless, it is important that housing sites incorporate greenspace where feasible, and that this is designed to provide an attractive space for visitors.

8.45 Whilst these areas are unlikely to fully mitigate the recreational impacts that might arise as a result of an increase in the local residential population, partial mitigation is possible. The cumulative benefits of this partial mitigation could be significant.

Greenspace standards

8.46 The effectiveness of greenspace depends on it being suitable as well as accessible. Natural England has published guidance for the design of Suitable Areas of Natural Greenspace (SANG)[42], which recognises the need to provide a space that is likely to attract visitors and not deter them. The guidance includes the following standards:

- Parking should be provided for visitors within 400m of the recreational area. There should be a clear link between the parking area and the SANG, with a safe access route provided between the two locations.
- Landscaping within the SANG should allow easy access into the recreational area, creating key nodal access points, allowing both new resident and existing users to directly access the greenspace provision. Landscaping should therefore be a key consideration.
- The SANG should be linked with an additional circular route of between 2.3 and 2.5 km, if necessary, and this should be between 2.5m and 3m wide (this can incorporate existing as well as newly created routes). The route should offer a number of opportunities to both extend the walk and undertake shorter routes to suit the needs of the user.
- The paths should not be formally surfaced, but should benefit from regular maintenance to ensure they remain accessible during the summer growing season.
- The walking route should retain a natural feel and should not be incorporated into the main development area.
- Signposting and way-marking should be provided at key nodal points to make potential users aware of the provision. This should include some interpretation, explaining why the recreational area is being provided.
- Funding should be provided to allow the local authority to advertise the provision of the new recreational area on their website, and also provide a leaflet explaining conservation reasons why the route has been created.

8.47 It is important that users of greenspace feel safe and so consideration will need to be given to the location of car parks and paths away from roads, the use of fencing to prevent dogs from accessing dangerous areas, avoiding car parking charges (which may deter visitors), providing dog waste bins etc.

Strategic Access Management & Monitoring (SAMM)

8.48 The principles of Strategic Access Management and Monitoring (SAMM) have previously been established within the SSGA HRA. This comprises various measures that will be implemented at the European sites as well as within proposed development sites and areas of green infrastructure. SAMM measures are to be continued in perpetuity.

SAMM mitigation at the European sites

8.49 A range of measures are proposed that are designed to control visitor activities and behaviour, either as a result of education or through policing of byelaws and other enforceable control measures. The proposed measures are:

[42] http://www.bracknell-forest.gov.uk/sangs-guidelines-and-checklist-12-06-08.pdf

- The use of Public Space Protection Orders / By-laws to implement dog-leash restrictions in sensitive locations, such as the Northumbria Coast SPA (within the 6 km visitor pressure catchment) during the period September to April.
- The use of Public Space Protection Orders / By-laws to restrict the use of quad bikes, motor bikes and other powered vehicles in areas where unacceptable impacts are occurring, and to restrict shooting.
- The use of a Coastal Ranger to monitor adherence to Public Space Protection Orders / By-laws, and to issue fines where necessary. If monitoring shows that dog-leash restrictions are not sufficient then dog bans will be introduced instead.
- A Coastal Ranger will also: monitor the European sites; manage the design and publication of educational information; promote walking routes; educate the local community; organise volunteers; and coordinate educational / promotional events.
- The use of alternative coastal locations, particularly cliff-tops rather than intertidal habitat, will be promoted by: a) preparing leaflets that are specifically aimed at dog walkers; b) encouraging access to the England Coast Path rather the shore, using interpretation panels (including an explanation of the shore's importance for wintering birds) and clear signage; c) providing dog waste bins at regular intervals; and d) upgrading access as necessary.
- Implementation and promotion of the Council initiatives 'Beach Watch' and 'Friends of the Coast'. The Coastal Warden will contribute to the recruitment of volunteers, who will be trained to lead walks, promote best practice for dog walking and police irresponsible behaviour.
- Information panels will be erected along the coast to raise awareness of the existence and importance of the European sites and the qualifying features (i.e. species and habitats of interest). Information panels will be erected at key access points and sensitive locations where the risk of disturbance is greatest.

SAMM mitigation at proposed development sites

8.50 A footpath link will be provided / enhanced between the existing areas of greenspace at Fulwell Quarry Local Nature Reserve and Hylton Dene Local Nature Reserve, utilising the allotments to the north of Redcar Road. This will help encourage residents of housing sites in the north-west part of the Plan area, to use these areas for recreation. Whilst part of Fulwell Quarry Local Nature Reserve (LNR) is designated a Special Site Scientific Interest (SSSI), the wider area is expected to provide suitable greenspace for walking and dog walking. This will be complemented by greenspace that will be provided on land to the north of Thornbeck College.

8.51 Walking options may be available on the north bank of the River Wear in areas that avoid Local Wildlife Sites. The value of this area (in terms of attracting walkers and dog walkers to mitigate recreational impacts on the European sites) is currently limited by its accessibility. The provision of car parking adjacent to Ferryboat Lane may help to encourage more visitors to use this area: the feasibility of car parking needs to be evaluated taking into account constraints such as existing dwellings and development at Housing Release Site 9 (Ferrybridge Lane).

8.52 Barnes Park provides a network of footpaths that follow the Barnes Burn, and collectively these provide an extensive walking area offering a range of walking routes of varying length. Whilst this may already be an area that attracts walkers and dog walkers, it is possible that improvements could be made to maintain and enhance its attractiveness. For example, an extended walk would necessitate the crossing of a number of roads that vary in the amount of traffic that they convey. The crossing points may benefit from some additional features to enhance their safety, such as signs, road markings, pedestrian crossings, fencing. The walking routes may benefit from the inclusion of dog waste bins at appropriate locations.

8.53 The sites the Silksworth and Farringdon sites are linked by a strip of amenity grassland with a surfaced path. This route involves crossing North Moor Lane at a point where there is a central refuge area. Whilst safety enhancements are unlikely to be necessary, the inclusion of dog waste bins is likely to be beneficial at appropriate locations.

8.54 The Silksworth and Tunstall Hills sites are linked by a well maintained footpath that follows a disused railway line. The point where the footpath crosses Silksworth is fenced and appears to provide a safe crossing point for walkers including dog walkers. As identified previously for other sites, the inclusion of dog waste bins is likely to be beneficial at appropriate locations. As previously noted, an assessment is required to determine whether or not further recreation is possible at Tunstall Hills LNR without compromising the SSSI designation and the site's conservation objectives.

8.55 Information panels will be installed within AANGs and along green links to raise awareness and provide details of walking routes. The information will include details of those routes and areas that are designed for dog walking, and will include information on the expected behaviour and responsibilities of dog walkers.

Monitoring and follow-on mitigation

8.56 Monitoring is required to alert the Council (competent authority) before there are adverse effects on the integrity of a European site. This should then trigger a review of the current measures and their effectiveness and, if they are found to be inadequate, may prompt the implementation of additional measures[43].

8.57 Monitoring will be undertaken within the 6 km visitor pressure catchment, and this will focus on the qualifying features of the European sites and pressures on them, specifically:

- surveys of SPA wintering birds to map species distribution and abundance;
- surveys of SAC vegetation to identify areas where degradation is occurring; and
- surveys of recreational disturbance of SPA wintering birds.

8.58 If surveys reveal that SAC vegetation is being affected by visitor pressure, further surveys may be necessary to determine the cause of these effects.

8.59 Surveys will also be undertaken of AANG usage, to judge whether improvements are necessary or if improved publicity is required to advertise their dog-friendly nature. If required, questionnaire-based surveys will be used to identify what modifications are required to enhance the site for users.

8.60 If monitoring identifies a requirement for the implementation of further mitigation measures, these will be discussed and agreed with Natural England as necessary. Further mitigation measures might include:

- implementation of additional access restrictions, which may be achieved using, for example, signage, fencing and /or wardening;
- implementation of dog bans rather than dog-leash restrictions in specified areas;
- additional landscaping in greenspace areas to make them more attractive.

[43] Tyldesley, D. & Chapman, C. (2013). The Habitats Regulations Assessment Handbook. June 2014 edition. DTA Publications Limited.

9 Mitigation Delivery

Funding

9.1 In general, the costs of implementation and maintenance of AANGs and SAMM will be split proportionately amongst the developments and financial contributions sought that will cover both elements. Within the SSGA some developments will be required to provide SSAANG within the sites. Consequently a separate costing approach has been proposed for the SSGA that takes this into account (URS, 2016). The proposed development at Seaburn is also subject to a separate costing approach, which was established in a separate HRA (BSG Ecology, 2016).

9.2 The costs of providing AANG, green links and other green infrastructure are to be met by developers. This will need to include the on-going maintenance cost for the SSAANG once provided. It is proposed that a commuted sum will be paid to the Council by each developer to cover future AANG maintenance for a 20 year period, after which the Council will take on maintenance of the AANG in perpetuity. Funding for Strategic Access Management and Monitoring will be obtained by securing Section 106 contributions from developers of housing sites that are too small to provide significant greenspace within them.

Development timing & certainty

9.3 It is expected that housing development will progress on a phased basis throughout the life of the Plan. It will therefore be necessary for the proposed range of mitigation measures to be delivered on a phased basis to ensure that an appropriate mix of both AANG and SAMM are implemented in advance of any impacts occurring.

9.4 The Allocations and Designations Plan will provide a detailed breakdown of future housing provision within the Sunderland City Council administrative area. This will be subject to separate HRA, which will set out details of how AANG and SAMM delivery and implementation will be secured and funded.

9.5 The Council has entered into a joint venture to form Siglion, who is progressing with an application for development at Seaburn (SHLAA sites 154A and 154B). Development of this site would see a mix of both AANG and SAMM implemented. Similarly the HRA for the SSGA has set out how AANG and SAMM delivery and implementation will be secured and funded in this area.

In-combination assessment of residual effects

9.6 A wide range of measures are proposed that are designed to mitigate impacts on European sites. Collectively it is considered that these measures will ensure that there will be no adverse effects on the integrity of any European site as a result of implementation of the Core Strategy and Development Plan. Notwithstanding this, it is possible that impacts may occur in combination with other plans and projects.

9.7 The Sunderland City Council administrative area is adjoined by South Tyneside Council to the north, Gateshead Council to the north-west and Durham County Council to the south and west. The Northumbria Coast SPA / Ramsar extends across the following authority areas: South Tyneside Council, Sunderland City Council and Durham County Council (as well as Northumberland County Council and North Tyneside Council). Durham Coast SAC extends across the following authority areas: South Tyneside Council, Sunderland City Council and Durham County Council.

9.8 The Gateshead Council administrative area is sufficiently distant from the coast that the Core Strategy and Urban Core Plan Habitat Regulations Assessment (November 2013)[44] concluded that there is not likely to be an adverse effect on the integrity of any European site. Gateshead Council Core Strategy and Urban Core Plan to 2030 was examined in public in 2014 and the inspector subsequently found it to be sound, subject to some main modifications. Consequently it is concluded that the Sunderland City Council Core Strategy is not likely to have an adverse impact in combination with the Gateshead Council Core Strategy and Urban Core Plan.

9.9 The County Durham Plan was first subject to Examination in Public in 2014 following which the inspector submitted an interim report. A judicial review of the interim report's findings resulted in the inspector's report being quashed. The original plan was withdrawn and the plan making process has been paused to consider what are expected to be fundamental changes from a new Government White Paper. Whilst HRA has been completed for the withdrawn plan, no further HRA has been completed. Consequently the County Durham Plan has not progressed far enough to allow a meaningful in-combination assessment to be completed.

9.10 The South Tyneside Local Plan to 2013 includes a Development Plan Document, which is currently in preparation: public consultation on the publication draft DPD is expected to take place during Autumn/Winter 2017. It is expected that the plan will be adopted in spring 2018. At this stage HRA has been completed for issues and options, with the objective of using the results to inform the Local Plan itself. To date HRA has not been completed for the Local Plan.

9.11 As noted above, the Sunderland City Council Core Strategy and Development Plan will be completed ahead of the South Tyneside Plan and so the in-combination assessment is necessarily limited in its scope. Both the South Tyneside Plan and the County Durham Plan will be considered in detail once they are published.

9.12 The Port of Sunderland Concept Masterplan includes proposals for the regeneration and redevelopment of the port area, including improvements to road and rail links. Whilst the Port is not subject to any wildlife designations, survey has revealed that the adjacent section of the coast does support wintering populations of waders including purple sandpiper and turnstone. Consequently this area is likely to have a supporting role for the Northumbria Coast SPA / Ramsar and may be functionally linked. It is understood that the Port's growth proposals are subject to a separate HRA, which is currently progressing.

9.13 The Sunderland Strategic Transport Corridor includes a proposal to upgrade the road network to create a dual carriageway link between the A19 and port, including a new crossing of the River Wear. This has the potential to make access to the coast a lot easier than the current situation. Air quality impacts are not considered likely to be significant as the nearest sensitive habitats are more than 200m from the route of the new road.

9.14 There are currently a number of significant planning applications proposed within the 6 km visitor pressure catchment, such as at Seaburn, but all of these have been or will be subject to separate HRA.

9.15 The Core Strategy HRA includes a comprehensive programme of measures and monitoring to mitigate impacts on the European Sites. The purpose of the monitoring programme is to facilitate early detection of any developing issues, including those relating to development in-combination with other plans and projects. Whilst there is sufficient certainty that these measures will be successful, this is complemented by additional precautionary mitigation measures, that can be implemented as necessary.

9.16 The proposed mitigation includes partnership working with both Durham County Council and South Tyneside Council to ensure early detection of any developing adverse in-combination effects, and the implementation of a co-ordinated strategic approach to any mitigation required.

[44] Newcastle Councils Core Strategy and Urban Core Plan Habitat Regulations Assessment (November 2013)

9.17 When all the above points are taken into consideration it is concluded that the Core Strategy will not have any adverse effects on European sites in-combination with other plans or projects. Table 15 provides a summary of the in combination assessment.

Table 15: Summary of in combination effects with other plans and projects

Plan or project	Potential pathway for in-combination effect	Likely significant effect in-combination
County Durham Local Plan	The Local Plan has the potential to result in increased visitor pressure to the Northumbria Coast SPA and Durham Coast SAC from increased number of residents within 6 km of the area covered by the Sunderland Core Strategy. Visitor survey data indicate that residents of postcode areas SR7 7 and SR7 0 (the Seaham area) do undertake recreational visits to the Sunderland coast, although the numbers of visitors are relatively small. A previous HRA for the Durham Local Plan recommended the inclusion of wording to either preclude development on sites / in areas where adverse effects were identified or implement necessary mitigation measures.	Recreational impacts arising from residents of the County Durham Local Plan area are likely to have a significant effect in combination with the Sunderland City Council Core Strategy. The HRA for the Core Strategy includes measures to mitigate impacts arising from future residential development and it is expected that similar measures will be implemented as part of the County Durham Local Plan. Coordinated implementation of these measures by the different authorities will ensure that all impacts are mitigated.
South Tyneside Local Plan to 2031	The Local Plan has the potential to result in increased visitor pressure to the Northumbria Coast SPA and Durham Coast SAC from increased number of residents within 6 km of the area covered by the Sunderland Core Strategy. Visitor survey data indicate that residents of South Tyneside (Whitburn, Cleadon and Boldon) undertake recreational visits to the Sunderland coast, although the numbers of visitors are relatively small. Based on the Strategic Housing and Land Availability Assessment (SHLAA) that forms part of the evidence base for the emerging plan and establishes the quantum for development, the majority of residential housing provision is likely to be outside the 6 km visitor pressure catchment.	Recreational impacts arising from residents of the South Tyneside Local Plan area are likely to have a significant effect in combination with the Sunderland City Council Core Strategy. The HRA for the Core Strategy includes measures to mitigate impacts arising from future residential development and it is expected that similar measures will be implemented as part of the South Tyneside Local Plan. Coordinated implementation of these measures by the different authorities will ensure that all impacts are mitigated.

Plan or project	Potential pathway for in-combination effect	Likely significant effect in-combination
Port of Sunderland Concept Masterplan	The masterplan sets out development aspirations for the Port of Sunderland regeneration for mixed use commercial, residential and business usage (including the retention of existing commercial operations). There will be improvements to the local road network (linked to the strategic transport corridor) and rail infrastructure. Whilst the port is not subject to any statutory designation, the adjacent coast does support wintering waders. There is the potential for disturbance impacts.	The proposed development of the Port is likely to have a significant effect on birds using the SPA / Ramsar site. Surveys reveal that the Port may have a role in supporting the SPA / Ramsar; however, only certain parts of the coast adjacent to the Port are used by SPA / Ramsar birds.
Sunderland Strategic Transport Corridor	There is a planned continuous dual carriageway, linking the A19 to the Port of Sunderland. A new bridge crossing over the River Wear is being constructed. The improved transport infrastructure may make the coast more accessible to visitors, potentially leading to an increase in visitor numbers.	The proposed transport improvements are likely to have a significant effect on European sites if it becomes easier for people to visit the coast (potentially resulting in an increase in visitor numbers). However, there will be improved access to the Port, which is not publicly accessible. Access is limited to the coast to the south of the Port, and the presence of cliffs will limit the potential for the disturbance of coastal birds.

9.18 The HRA has identified the potential for the Core Strategy to result in adverse effects when considered in-combination with the proposals for the redevelopment of the Port of Sunderland, as set out within the Concept Masterplan, and through the Strategic Transport Corridor.

9.19 Most housing sites within the South Tyneside emerging Local Plan area appear to fall outside the 6 km visitor pressure catchment. Nevertheless, there is potential for the Sunderland Core Strategy to result in adverse effects in combination with the South Tyneside Local Plan. Similar adverse effects are possible in combination with the County Durham Local Plan.

9.20 Implementation of the proposed mitigation measures and monitoring strategy for the Core Strategy will require co-ordination between Sunderland City Council, Durham County Council and South Tyneside Council. However, it is understood that the County Durham Local Plan process has been temporarily suspended and adoption of the South Tyneside Local Plan is not expected until 2018. Consequently close co-ordination with both authorities may be difficult in the short-term.

10 Conclusions

10.1 The HRA has identified likely significant effects that may arise as a result of implementation of the Core Strategy and Development Plan. The main effect is likely to be disturbance of birds caused by higher numbers of dog walkers using the coast.

10.2 A range of measures are described to mitigate impacts on European sites. It is considered that existing and proposed greenspace is appropriate in terms of area, distance from housing sites and green link provision/upgrading. If the greenspace design principles set out within the HRA are adhered to, the proposed measures are considered to be sufficient to mitigate impacts arising from dog-walking activity from new residents of the housing sites.

10.3 The use of greenspace to divert recreational activity from the European sites will be actively promoted and complemented by strategic access management measures. The use of measures such as dog-leash restrictions, appointment of a coastal ranger and public education, will collectively counteract recreational activity that has the potential to have an adverse effect on European sites.

10.4 Proposed monitoring surveys with additional follow-on mitigation measures (such as dog-bans and access restrictions) provide assurance that, in the unlikely event that early signs of mitigation failure are observed, then alternative measures are available to ensure that the integrity of the European sites is maintained.

10.5 When the proposed mitigation measures are adopted and the residual effects re-assessed against the conservation objectives for each site, it is concluded that the Core Strategy will not have an adverse effect on the integrity of the Northumbria Coast SPA/Ramsar sites or Durham Coast SAC, either alone or in-combination with other plans and projects.

11 Glossary

AANG South Sunderland Areas of Additional Natural Greenspace

BTO: British Trust for Ornithology

DBC: Durham Bird Club

HRA: Habitat Regulations Assessment

JNCC: Joint Nature Conservation Committee

LWS: Local Wildlife Site

RSPB: Royal Society for the Protection of Birds

SAC: Special Area of Conservation

SAMM: Strategic Access Management and Monitoring

SSAANG South Sunderland Areas of Additional Natural Greenspace

SANG: Suitable Alternative Natural Greenspace

SPA: Special Protection Area

SSGA: South Sunderland Growth Area

SSSI: Site of Special Scientific Interest

12 References

Aecom (2016). Habitats Regulations Screening Assessment to Support Sunderland City Council's Core Strategy Growth Options 2016. Published March 2016.

Council Directive on the conservation of natural habitats and of wild fauna and flora of 21st May 1992 (92/43/EEC).

Council Directive on the conservation of wild birds of 2nd April 1979 (70/409/EEC) consolidated by the Birds Directive 2009 (2009/147/EC).

Capita (2017). Sunderland Local Plan: Initial Assessment of Transport Impacts. Published April 2017.

Clarke, R., Fearnley, H., Liley, D., Stillman, R. and West, A. (2012). The Solent Mitigation and Disturbance Project Footprint Ecology & Bournemouth University.

Durham County Council (2014). The County Durham Plan: Addendum to the Habitat Regulations Assessment of the County Durham Plan Pre-Submission, March 2014.

Edge Analytics (2016). Sunderland: Updating the Demographic Evidence. Published October 2016.

English Nature (2000). Northumbria Coast European marine site: English Nature's advice given under Regulation 33(2) of the Conservation (Natural Habitats &c.) Regulations 1994.

English Nature (2004). The ecological effects of diffuse air pollution. English Nature Research Report 580.

European Commission (2001). Assessment of plans and projects significantly effecting Natura 2000 site. Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC. Published November 2001.

Guidance for Plan Making Authorities in Wales: The Appraisal of Plans under the Habitats Directive at http://www.ccgc.gov.uk/landscape--wildlife/managing-land-and-sea/environmental-assessment/habitats-regulations-assessmen.aspx.

Habitats Regulations Appraisal of Plans: guide for plan making bodies in Scotland at http://www.snh.gov.uk/policy-and-guidance/guidance-documents/document/?category_code=Guidance&topic_id=1472

Hampshire County Council (2013). Planning for Dog Ownership in New Developments: Reducing Conflict – Adding Value. Hampshire County Council.

Highways Agency (2009). Design Manual for Roads and Bridges. Volume 11, Section 3, Part 1.

Natural England (2016). European Site Conservation Objectives: Draft Supplementary Advice on Conserving and Restoring Site Features. Castle Eden Dene Special Area of Conservation (SAC). Published 28 September 2016.

Royal Borough of Windsor & Maidenhead (2010). Thames Basin Heaths Special Protection Area Supplementary Planning Document (Part 1). Royal Borough of Windsor & Maidenhead.

Royal Haskoning (2007). Shoreline Management Plan 2: River Tyne to Flamborough Head. Prepared on behalf of North East Coastal Authorities Group. February 2007.

Scott Wilson, Levett-Therivel Sustainability Consultants, Treweek Environmental Consultants and Land Use Consultants (2006). Appropriate assessment of plans. Published September 2006.

Sunderland City Council (2015). Habitats Regulations Assessment Screening Report. Draft Interim Student Accommodation Policy. Published March 2015.

Sunderland City Council (2016). Local Flood Risk Management Strategy. March 2016.

Taylor, K., Anderson, P., Taylor, R. P., Longden, K. & Fisher, P. (2005). Dogs, access and nature conservation. Research Report. English Nature, Peterborough.

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.

Thames Basin Heaths Joint Strategic Partnership Board (2009). Thames Basin Heaths Special Protection Area Delivery Framework. Published on behalf of the Thames Basin Heaths Joint Strategic Partnership Board by the South East England Regional Assembly, March 2009.

The Mammal Society (1997). Domestic Cat Predation on Wildlife, by M. Woods, R.A. McDonald and S. Harris.

Turner, D.C. & Meister, O. (1988). Hunting behaviour of the domestic cat. In The Domestic Cat: the Biology of its Behaviour (ed. Turner, D.C. & Bateson, P.). Cambridge University Press.

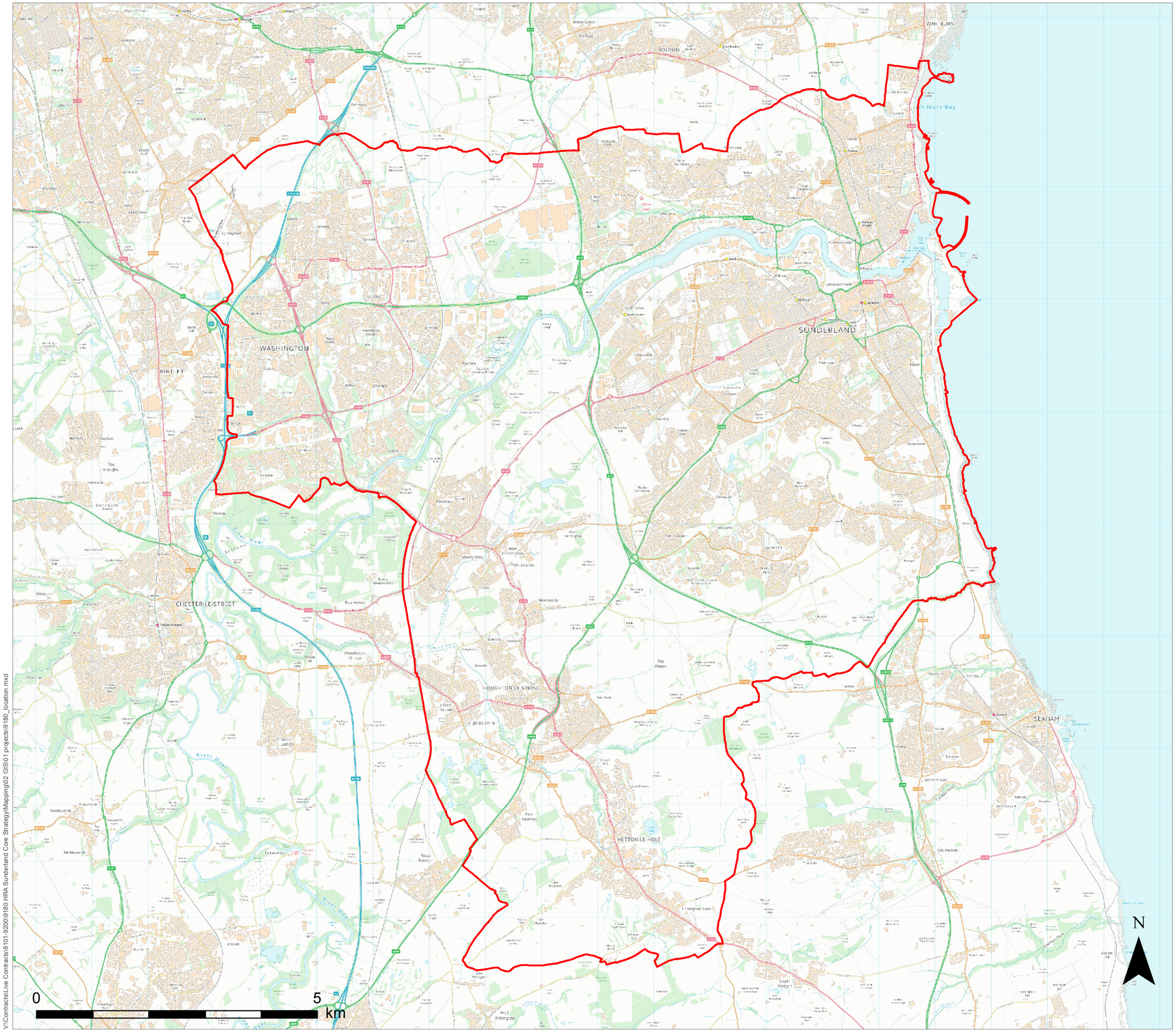
Tyldesley, D. and Chapman, C., (2013) The Habitats Regulations Assessment Handbook, September 2013 2013 edition UK: DTA Publications Limited.

URS (2013). City of Sunderland LDF Core Strategy - Draft Revised Options. Habitat Regulations Appraisal: Screening Report. Published July 2013.

URS (2015). South Sunderland Growth Area SPD: Appropriate Assessment. Published May 2015.

Wierzbowskaa, I.A., Olkoa,J., Hędrzakb, M. & Crooks, K.R. (2012). Free-ranging domestic cats reduce the effective protected area of a Polish national park, Mammalian Biology, Volume 77, Issue 3, May 2012, Pages 204–210.

13 Figures



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LEGEND

Sunderland District Boundary

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JOB REF: 9180.00

PROJECT TITLE

HRA OF SUNDERLAND'S CORE STRATEGY 2016

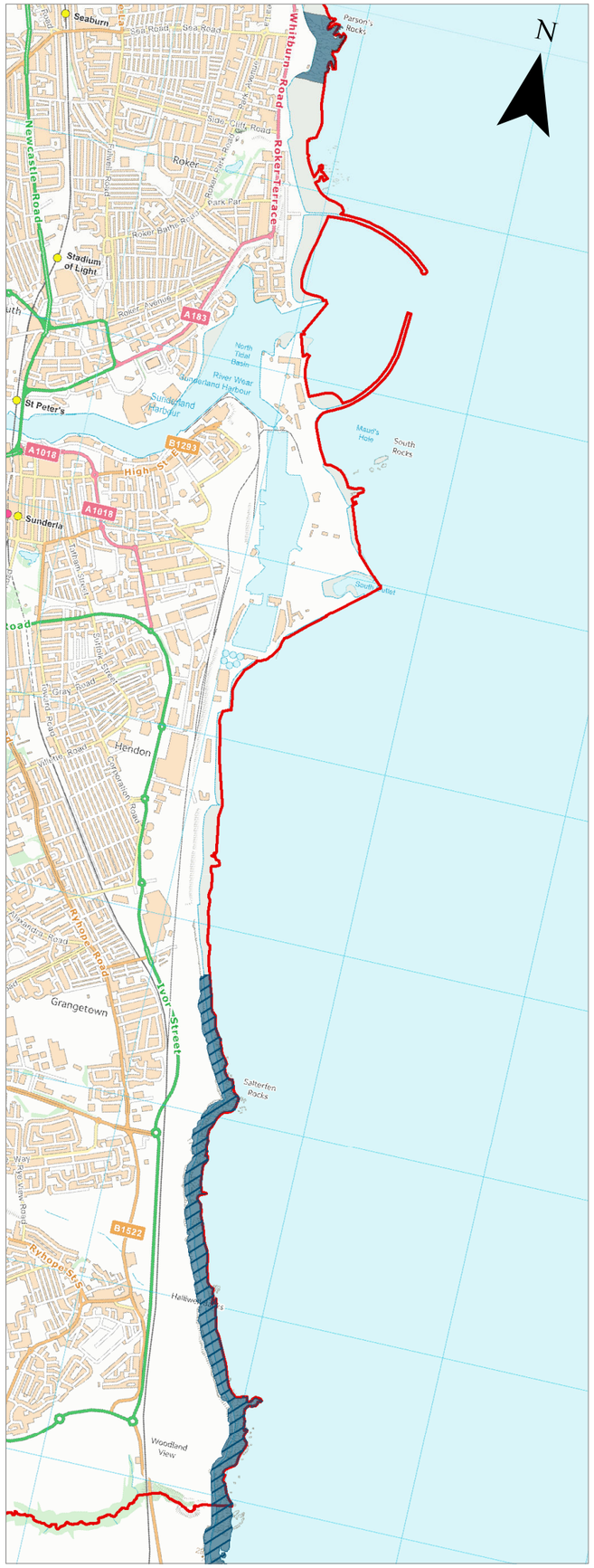
DRAWING TITLE

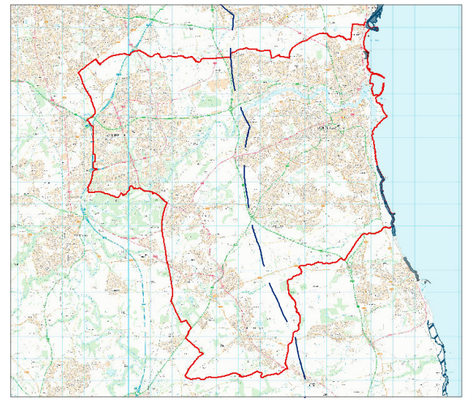
Figure 1: Map showing the boundary of Sunderland district

DATE: 21.11.2016 CHECKED: SB SCALE: 1:65,000

DRAWN: COH APPROVED: SB STATUS: FINAL

Sources: BSG Ecology survey data





LEGEND

- Sunderland District Boundary
- 6 km radius from Sunderland District Boundary
- Northumbria Coast Special Protection Area (SPA) / Ramsar sites
- Durham Coast Special Area of Conservation (SAC)
- 6 km radius from SPA / Ramsar sites / SAC

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PROJECT TITLE

HRA OF SUNDERLAND'S CORE STRATEGY 2016

DRAWING TITLE

Figure 2: European site boundaries

DATE: 21.11.2016 CHECKED: SB SCALE: 1:30,000

DRAWN: COH APPROVED: SB STATUS: FINAL

Sources: BSG Ecology survey data

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14 Appendix 1: Habitats Directive

Statutory Requirements

14.1 In October 2005 (Case C-6/04), the European Court of Justice ruled that Articles 6(3) and 6(4) of Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (known as the 'Habitats Directive') applied to land use plans in England. This ruling was made with specific reference to the definition of the term 'plans or projects' as referenced within Article 6(3) of the Directive).

14.2 Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans or projects affecting Natura 2000 sites. Article 6(3) establishes the requirement for Appropriate Assessment:

14.3 "Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public."

14.4 Article 6(4) goes on to discuss alternative solutions, the test of "imperative reasons of overriding public interest" (IROPI) and compensatory measures:

14.5 "If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of social or economic nature, the Member State shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted."

14.6 In its ruling the European Court of Justice concluded that land use plans must also be subject to an 'appropriate assessment', as required under Article 6(3) of the Habitats Directive. The purpose of the 'appropriate assessment' is the same for all plans or projects, i.e. to demonstrate that their implementation would not adversely affect the integrity of a Natura 2000 site.

14.7 Amendments to the Conservation (Natural Habitats &.c) Regulations 1994 (the statutory instrument that first transposed the requirements of the Habitats Directive into UK law) to implement the ruling were published for England and Wales in July 2007 . These amendments and the previous regulations were subsequently consolidated and replaced by the Conservation of Habitats and Species Regulations 2010 (the Habitats Regulations).

14.8 Chapter 8 of the Habitats Regulations covers the assessment of plans and projects and it sets out the requirement that an authority preparing a land-use plan must assess the potential effects of the plan upon European sites prior to the plan being published. Under regulation 102 of the Habitats Regulations, the assessment must determine whether or not a plan will adversely affect the integrity of any European site(s) that might be affected by the implementation of that plan. Where negative effects are identified, the process should consider alternatives to the proposed actions and explore mitigation opportunities, whilst adhering to the precautionary principle .

14.9 Decision-makers then have to determine what action to take and this requirement is summarised succinctly as follows (URS, 2015). 'They [decision makers] should take account of the potential consequences of taking no action, the uncertainties inherent in the scientific evaluation, and they should consult interested parties on the possible ways of managing the risk. Measures should be proportionate to the level of risk, and to the desired level of protection. They should be provisional in nature pending the availability of more reliable scientific data. Action is then undertaken to obtain further information enabling a more objective assessment of the risk.

14.10 The measures taken to manage the risk should be maintained so long as the scientific information remains inconclusive and the risk unacceptable. The hierarchy of intervention is important: where effects on ecological integrity are identified, plan makers must first consider alternative ways of achieving the plan's objectives that avoid significant effects entirely. Where it is not possible to meet objectives through other means, mitigation measures that allow the plan to proceed by removing or reducing significant effects may be considered. If it is impossible to avoid or mitigate the adverse effect, the plan-makers must demonstrate, under the conditions of regulation 103 of the Habitats Regulations, that there are Imperative Reasons of Overriding Public Interest (IROPI) to continue with the proposal. This is widely perceived as an undesirable position and should be avoided if at all possible.'

15 Appendix 2: European Site Conservation Objectives

Durham Coast Conservation Objectives

Northumbria Coast Conservation Objectives

European Site Conservation Objectives for Durham Coast Special Area of Conservation Site code: UK0030140

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), 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**
- **The structure and function (including typical species) of qualifying natural habitats, and**
- **The supporting processes on which the qualifying natural habitats rely**

This document should be read in conjunction with the accompanying *Supplementary Advice* document, which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

Qualifying Features:

H1230. Vegetated sea cliffs of the Atlantic and Baltic coasts

Explanatory Notes: European Site Conservation Objectives

These Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2010 (the "Habitats Regulations") and Article 6(3) of the Habitats Directive. They must be considered when a competent authority is required to make a 'Habitats Regulations Assessment', including an Appropriate Assessment, under the relevant parts of this legislation.

These Conservation Objectives and the accompanying Supplementary Advice (where available) will also provide a framework to inform the measures needed to conserve or restore the European Site and the prevention of deterioration or significant disturbance of its qualifying features as required by the provisions of Article 6(1) and 6(2) of the Directive.

These Conservation Objectives are set for each habitat or species of a Special Area of Conservation (SAC). Where the objectives are met, the site will be considered to exhibit a high degree of integrity and to be contributing to achieving Favourable Conservation Status for that species or habitat type at a UK level. The term 'favourable conservation status' is defined in Article 1 of the Habitats Directive.

Publication date: 30 June 2014 (version 2). This document updates and replaces an earlier version dated 29 May 2012 to reflect Natural England's Strategic Standard on European Site Conservation Objectives 2014.

European Site Conservation Objectives for Northumbria Coast Special Protection Area and potential Special Protection Area Site Code: UK9006131

With regard to the SPA and pSPA and the individual species and/or assemblage of species for which the site has been or may be classified (the 'Qualifying Features' including the Additional Qualifying Features' listed below), 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.**

This document should be read in conjunction with the accompanying Conservation Advice document (where available), which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

Qualifying Features

A148 *Calidris maritima*; Purple sandpiper (Non-breeding)
A169 *Arenaria interpres*; Ruddy turnstone (Non-breeding)
A195 *Sterna albifrons*; Little tern (Breeding)

Additional Qualifying Features*

A194 *Sterna paradisaea*; Arctic tern (Breeding)

*Government has initiated public consultation on the scientific case for the classification of these features as part of this Special Protection Area (SPA).

This is a European Marine Site

This SPA is a part of the Northumbria Coast European Marine Site (EMS). These Conservation Objectives should be used in conjunction with the current Conservation Advice document for the EMS. For further details about this please visit the Natural England website at https://www.gov.uk/government/collections/conservation-advice-packages-for-marine-protected-areas or contact Natural England's enquiry service at enquiries@naturalengland.org.uk or by phone on 0845 600 3078.

This is a potential Special Protection Area (pSPA)

This is also a site on which Government has initiated public consultation on the scientific case for the classification of additional qualifying features as part of this Special Protection Area (SPA). As a matter of Government policy, potential SPAs and their features are treated as if they are formally classified. The provisions of the Habitats Regulations therefore apply to them (see below).

Explanatory Notes: European Site Conservation Objectives

These Conservation Objectives are those referred to in the Conservation of Habitats and Species Regulations 2010 (the "Habitats Regulations") and Article 6(3) of the Habitats Directive. They must be considered when a competent authority is required to make a 'Habitats Regulations Assessment' including an Appropriate Assessment, under the relevant parts of this legislation.

These Conservation Objectives and the accompanying Supplementary Advice (where this is available) will also provide a framework to inform the management of the European Site under the provisions of Articles 4(1) and 4(2) of the Wild Birds Directive, and the prevention of deterioration of habitats and significant disturbance of its qualifying features required under Article 6(2) of the Habitats Directive.

These Conservation Objectives are set for each bird feature for a Special Protection Area (SPA). Where the objectives are met, the site will be considered to exhibit a high degree of integrity and to be contributing to achieving the aims of the Wild Birds Directive.

Publication date: 29 January 2016 (Version 3). This document updates and replaces an earlier version dated 30 June 2014 to include the additional qualifying features ('pSPA features') listed above.

16 Appendix 3: European Site Visitor Pressure Catchment

Annualising visitor survey data

16.1 Bluegrass has carried out a visitor survey that collected data from six locations in South Shields and Sunderland during the period November 2014 to April 2015. A total of 674 interviews were conducted, comprising 330 the South Tyneside area and 334 in the Sunderland area.

16.2 Each interview represents a sample of a single visit to the coast and so analysis of the resultant data without any correction is unlikely to provide a realistic picture of actual visitor behaviour over the course of a year. For example, visitors exhibit different visitor behaviour with some visiting the coast daily whilst others may visit the coast less than once a month. Consequently there is a need to consider the frequency of visits when interpreting the data.

16.3 Durham County Council has previously commissioned visitor survey data of the Durham Heritage Coast and the resultant data were annualised to provide an overall picture of visitor activity per year. In broad terms the process involves converting visit frequency into a number of visits per year and then linking this to travel distance.

16.4 The approach that has been adopted in this study is as follows. Calculate the number of visits per year for each interviewee. During interviews each respondent was asked to estimate the frequency with which they visit the coast using the following bands:

- Every day
- 2-3 times a week
- About once a week
- Once or twice a month
- Less than once a month

16.5 These bands have been converted into visits per year as follows:

- Every day – 182 visits in the winter and 183 visits in the summer, which gives a total of 365 visits a year
- 2-3 times a week – 26 weeks x 3 visits = 78 visits in the winter / summer
- About once a week – 26 weeks x 1 visit = 26 visits in the winter / summer
- Once or twice a month – 6 months x 2 visits = 12 visits in the winter / summer
- Less than once a month - 6 months x 1 visits = 6 visits in the winter / summer

16.6 Calculate the travel distance for each interviewee. The travel distance has been calculated for each respondent using the postcode sector that has been provided. As a postcode sector represents a zone rather than a point, the minimum travel distance has been calculated (from the eastern edge of the postcode sector to the nearest designated site) and the maximum travel distance has been calculated (from the western edge of the postcode sector).

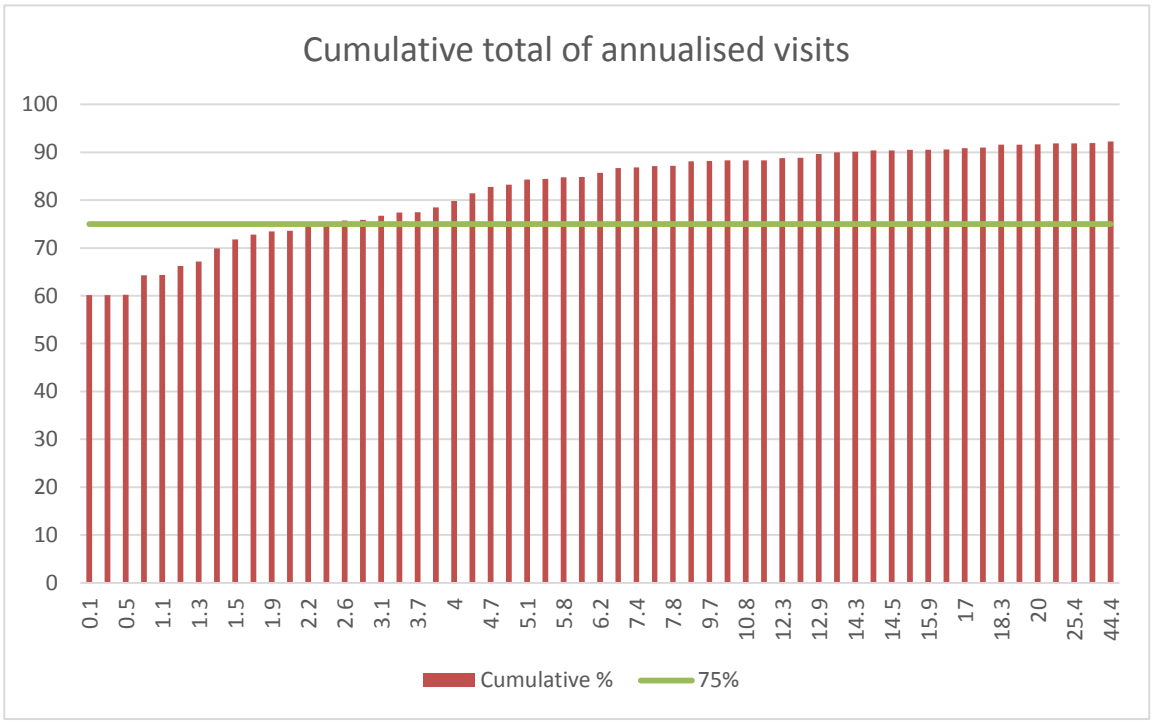
16.7 Aggregate the results. The results have then been aggregated into travel bands to provide a total number of visits per travel band. For example, two people may have travelled from postcode sector NE33 4, which is 1.2 km from the nearest designated site (minimum distance). One person may have indicated that they visit daily (365 visits a year) and the second person may have indicated that they visit once or twice a month (24 visits a year). The total annualised visits for this travel band is therefore 389.

16.8 Calculate a cumulative total. The results are then plotted as a list of aggregated visits for each travel band starting with the shortest travel distance and working up to the furthest. The aggregated visits are added to the previous total to provide a cumulative total (see Table A1). The cumulative total is then converted into a percentage with the last entry being 100%. The data are then plotted graphically and a 75% intercept is used to calculate the travel distance within which 75% of the visitors conducted their journeys to the coast.

Table A1

Row Labels	**Sum of Sum of visits**	Cumulative total	Cumulative %
0.1	71416	71416	60.13
0.2	32	71448	60.16
0.25	48	71496	60.20
0.3	4886	76382	64.31
0.4	76	76458	64.37
0.5	2193	78651	66.22

Figure 1



Excluded data

16.9 The above approach has excluded visits that are over 50 km as these were all reported to be infrequent by respondents and are considered to be people on holiday rather than local residents. In addition some of the postcodes are not recognised as legitimate postcode sectors and so they have been excluded unless there appears to have been an obvious transcription error.

17 Appendix 4: Durham Coast SAC – constituent SSSI Condition Assessment

17.1 Table A2: Condition assessment for the constituent SSSI units of the Durham Coast SAC (within the Sunderland City Council area).

SSSI unit	Section	Description	Condition assessment
6	The Bents to Whitburn Rifle Ranges	Littoral rock (34.6 ha)	Favourable This unit consisted of rocky shore which has very good feeding habitat for non-breeding birds. A large extent of the intertidal rocks is covered in a mix of seaweed. The mix is dominated by: Fucus species, ulva (sea lettuce), washed up brown seaweeds including Laminaria and red seaweeds including Ceramium rubrum. No negative issues were identified for the coastal bird habitat
10	The Bents to Whitburn Rifle Ranges	Lowland neutral grassland (13.4 ha)	Favourable This unit is in favourable condition. The range of vegetation zones and transitions has been maintained with areas of bare ground, pioneer habitat, maritime grassland on the cliff slopes and exposed headlands, and a mosaic of MG5/CG2 species rich grassland in a thin band at the top of the cliff interspersed with non-interest feature MG1 grassland. Scrub is well within acceptable limits at around 5%. Small patches of non-native 'garden escape' species are occasional, but do not affect overall condition. At Whitburn, the borders of amenity grassland adjacent to the SSSI have been sown with an arable wildflower mix, but this does not seem to be spreading into the SSSI so is not considered a threat. There were no negative factors affecting the geological interest and natural processes were unconstrained. At the northern end of the unit there was quite a lot of material from natural land slips at the base of the cliff, but this will be removed by wave action so is not considered to be a threat to condition. Strandline vegetation is still present at the southern end of the unit where Whitburn Bay begins.

SSSI unit	Section	Description	Condition assessment
13	Parsons Rocks	Littoral rock (4.5 ha)	Favourable The majority of the rocks adjacent to the promenade were covered by a rich diversity of seaweed providing good feeding habitat for birds. Fucus spiralis, entromorpha and washed up Laminaria were the main species present. The only negative factor on the unit was the amount of dog walking occurring on the accessible parts of the unit. The birds are forced to the seaward edge of the rocky shore so the amount of useable habitat during these times is reduced.
14	Promenade at Grangetown to Halliwell Banks	Littoral rock (13.5 ha)	Favourable This unit only has rocky shore interest used by non-breeding birds. The majority of the rocky shore was covered by a rich diversity of seaweed providing good feeding habitat for birds. Fucus spiralis, entromorpha and washed up Laminaria were the main species present. A large Laminaria forest could be seen further off shore. Sand and rock pools also provides good habitat for birds and invertebrates. The cliff tops consisted of poor grassland with little species diversity. The one area where there was better species diversity was the strip between units 14 and 15. Here the sward composition consisted of Lotus corniculatus, Centaurea nigra, Plantago media, Festuca rubra, Geranium sanguineum, Succisa pratensis and Galium verum. There were also negative species along the stream including Himalayan balsam, ragwort and various garden escapes. No negative features or actions were affecting the unit with the exception of some historic dumping areas seen on the cliff slopes.

SSSI unit	Section	Description	Condition assessment
15	Halliwell Banks to south of Ryhope Dene	Littoral rock (15.8 ha)	Favourable This unit only has rocky shore interest used by non-breeding birds. The majority of the rocky shore was covered by a rich diversity of seaweed providing good feeding habitat for birds. Fucus spiralis, entromorpha and washed up Laminaria were the main species present. The very South of the unit before Seaham Beach (Pincushion rocks) provided an excellent expanse of feeding habitat. Sand and rock pools also provides good habitat for birds and invertebrates. The cliff tops consisted of poor grassland with little species diversity. Arable land comes in close proximity to the cliff slopes and so will affect species diversity. The one area where there was better species diversity was the strip between units 14 and 15. Here the sward composition consisted of Lotus corniculatus, Centaurea nigra, Plantago media, Festuca rubra, Geranium sanguineum, Succisa pratensis and Galium verum. No negative features or actions were affecting the unit with the exception of some historic dumping areas seen on the cliff slopes.

SSSI unit	Section	Description	Condition assessment
20	Nose's Point to Shot Rock	Calcareous grassland (16.4 Ha)	Unfavourable recovering The unit passed all variables except frequency of pioneer community species because legacy mine waste is constraining coastal erosion, therefore exposing less bare ground for pioneer communities. The mine waste is being naturally eroded over time so the site can be considered to be Unfavourable Recovering. Biological features – The good grassland is in small patches interspersed with scrub and rank vegetation, but where it occurs the species diversity is high with a complex mosaic of neutral and calcareous communities reflecting the underlying geology of magnesian limestone with glacial boulder clay deposits. The biological interest features don?t require management intervention as long as scrub remains below 20% overall (assessed as 7% on average). Vegetation succession will be moderated by natural processes so that the exact location and extent of the different interest features varies over time but the range of vegetation zones is maintained. However the best and most extensive area of grassland is the large meadow at Beacon Point which best fits the CG6 NVC but also contains abundant saw-wort and other neutral species. This area is managed as a hay meadow and scrub levels have been kept low here. Geological features – though the very base of the cliff is obscured by the mining deposits in places, the rest of the sequence is well exposed and the geological features are considered to be in favourable condition overall. The Easington Raised Beach deposits in the cliffs of Shippersea Bay were observed to be intact with no obstructions to them evolving naturally.
23	Nose's Point to Shot Rock	Littoral sediment (45.2 Ha)	Unfavourable recovering See unit 20

18 Appendix 5: Policy Assessment

Policy	Rational
Policy SS1: Presumption in favour of sustainable development	Sustainability requirements are not likely to have a significant effect on a European site.
Policy SS2: Principles of Sustainable Development	Sustainability requirements are not likely to have a significant effect on a European site.
Policy SS3: Spatial Delivery for Growth	This policy sets out the Council's aspirations for growth and is not likely to have any effect on a European site as it only establishes general aspirations / objectives.
Policy SS4: Urban Core Policy	This policy sets out the Council's aspirations for growth and is not likely to have any effect on a European site as it only establishes general aspirations / objectives.
Policy SA1: Former Vaux Site Strategic Allocation	The Vaux site is allocated for office-led mixed-use development. Whilst the site does include residential development, it already has planning permission so any impacts should have already been considered as part of the application process. It is not likely to have an effect on a European site.
Policy SA2: South Sunderland Growth Area	The SSGA includes residential development at locations that are close enough to the coast that impacts on European sites are possible. HRA has been completed for the SSGA and appropriate mitigation built in to the proposals.
Policy SA3: Housing Release Sites	Three of the fifteen proposed housing release sites are close enough to the coast that impacts on European sites are possible. These sites are considered within this HRA.
Policy SA4: Safeguarding Areas	A total of approximately 100 hectares of land has been safeguarded for future development beyond 2033. This land is far enough from the coast that its development is not likely to have a significant effect on a European site.
Policy HWS1: Health and Wellbeing	This policy establishes the principles for promoting health and wellbeing and sets out the Council's aspirations. The policy includes the promotion of improvements and enhancing accessibility to the City's greenspaces and green infrastructure corridors and is therefore not likely to have any effect on a European site.
Policy HWS2: Protection and delivery of community, social and cultural facilities	This policy seeks to protect existing and support the development of new social and community facilities. It is therefore not likely to have any effect on a European site.

Policy	Rational
Policy HWS3: Culture, Leisure and Tourism	This policy encourages culture, leisure and tourism initiatives within the City and town centres; however, it also includes leisure and tourism proposals at Seaburn seafront, which may result in increased recreational impacts on European sites.
Policy H1: Sustainable Neighbourhoods	This policy establishes the principles of housing provision and sets out the Council's general aspirations / objectives. It is therefore not likely to have any effect on a European site.
Policy H2: Housing Delivery	This policy establishes the principles of housing provision and sets out the Council's general objectives. It is therefore not likely to have any effect on a European site.
Policy H3: Housing Mix	This policy establishes the principles of housing provision and sets out the Council's general aspirations / objectives. It is therefore not likely to have any effect on a European site.
Policy H4: Affordable Housing	This policy establishes the principles of affordable housing provision and sets out the Council's general aspirations / objectives. It is therefore not likely to have any effect on a European site.
Policy H5: Student Accommodation	This policy establishes the principles of student accommodation and sets out the Council's general aspirations / objectives; however, it also sets out criteria for evaluating other sites. Policy E7 and its supporting text will ensure that impacts on European sites are fully considered. A previous HRA for the Draft Interim Student Accommodation Policy concluded that the policy was not likely to have a significant effect. Student numbers have been falling in recent years and this is expected to plateau and stabilise. Mobility within the student population is limited and this is reflected in reduced car parking provision at student accommodation sites. It is anticipated that students are unlikely to contribute significantly to visitor pressure at the coast.
Policy H6: Travelling Showpeople, Gypsies and Travellers	This policy sets out requirements for provision at locations that are close to a European site. Whilst three options are being considered only one will be taken forward. Occupancy of these sites will be managed by the council, thereby ensuring that they are used exclusively as short-term stopovers.
Policy H7: Residential Conversions and Change of Use	This policy establishes the principles where loss of housing stock would be acceptable. This is not likely to have a significant effect on a European site.
Policy H8: Housing in Multiple Occupation	This policy establishes the principles of multiple occupation of properties and so has the potential to result in local population increases. Significant effects on European sites cannot be ruled out.

Policy	Rational
Policy H9: Backland and Tandem Development	This policy establishes the principles of new development within the curtilage of an existing property, and so has the potential to result in local population increases. Significant effects on European sites cannot be ruled out.
Policy EP1: Economic Growth	This policy sets out the Council's aspirations for economic growth and is not likely to have any effect on a European site as it only establishes general aspirations / objectives.
Policy EP2: Primary Employment Areas	This policy identifies a number of Primary Employment Areas, which are viewed as essential to the long-term prosperity of the area. Promotion of employment is not likely to have a significant effect on a European site. Although this policy includes the Port of Sunderland, Policy E7 and its supporting text will ensure that impacts on European sites are fully considered.
Policy EP3: Key Employment Areas	This policy identifies a number of Key Employment Areas, which are existing areas that have been identified for future investment. Promotion of employment is not likely to have a significant effect on a European site.
Policy EP4: Other Employment Sites	This policy supports employment development on other sites if there are demonstrable regeneration benefits. Promotion of employment is not likely to have a significant effect on a European site.
Policy EP5: New Employment Areas	This policy supports employment development on other sites if it can be demonstrated that the proposed use cannot be accommodated within the existing Primary or Key Employment Areas. Promotion of employment is not likely to have a significant effect on a European site.
Policy EP6: Offices	This policy identifies a number of locations for office development. Promotion of office development is not likely to have a significant effect on a European site.
Policy EP7: Trade Counters	This policy establishes the principles of establishing trade counters. Promotion of this type of outlet is not likely to have a significant effect on a European site.
Policy EP8: Designated Centres	This policy seeks to safeguard and enhance the vitality and viability of the designated centres in the City. This is not likely to have a significant effect on a European site.
Policy EP9: Retail Hierarchy	This policy seeks to maximise regeneration in a number of centres. This is not likely to have a significant effect on a European site.
Policy EP10: Retail Impact Assessments	This policy sets out the assessment requirements for edge or out-of-centre retail development. This is not likely to have a significant effect on a European site.

Policy	Rational
Policy EP11: Primary and secondary frontages	This policy sets out the requirements for retail development in the City centre. This is not likely to have a significant effect on a European site.
Policy EP12: Hot Food Takeaways	This policy sets out the requirements for takeaway development within designated centres. This is not likely to have a significant effect on a European site.
Policy E1: Urban Design	This policy sets out the Council's objectives for urban design, which are not likely to have a significant effect on any European sites.
Policy E2: Public Realm	This policy sets out the Council's objectives for ensuring that the highest design standards are met for public realm. This may have a positive effect on European sites by providing alternative visitor attractions.
Policy E3: Advertisements/Shop Fronts	This policy establishes the design standards for advertisements and shop fronts. This is not likely to have a significant effect on any European sites.
Policy E4: Historic Environment	This policy seeks to ensure that the historic environment continues to be valued, protected, enhanced and managed appropriately. This is not likely to have a significant effect on any European sites.
Policy E5: Heritage Assets	This policy seeks to protect heritage assets. This is not likely to have a significant effect on any European sites.
Policy E6: Green Infrastructure	This policy promotes the enhancing, creating and managing of multifunctional greenspace. This is considered to be key in terms of helping to mitigate impacts on European sites arising from implementation of other aspects of the Plan.
Policy E7: Biodiversity and Geodiversity	This policy seeks to protect biodiversity including European sites. Whilst the policy itself does not refer to a trigger for HRA, the supporting text sets out what is required and when.
Policy E8: Woodlands/ Hedgerows and Trees	This policy seeks to protect biodiversity including European sites. This is not likely to have a significant effect on any European sites.
Policy E9: Greenspace	This policy seeks to protect greenspace. This is considered to be key in terms of helping to mitigate impacts on European sites arising from implementation of other aspects of the Plan. Reinforce this?
Policy E10: Burial Space	This policy sets out the requirements for the protection of existing and the creation of new burial spaces. This is not likely to have a significant effect on any European sites.
Policy E11: Green Belt	This policy establishes the principles of green belt protection. This is not likely to have a significant effect on any European sites.

Policy	Rational
Policy E12: Settlement Breaks	This policy seeks to maintain settlement breaks, one benefit being to reinforce the policy on green infrastructure. This is not likely to have a significant effect on any European sites.
Policy E13: Development in the Open Countryside	This policy sets out the criteria that will need to be applied before development in the open countryside will be permitted. This includes limited small-scale residential development, which is unlikely to have a significant effect on any European sites.
Policy E14: Landscape Character	This policy seeks to protect the landscape within the Plan area. This is not likely to have a significant effect on any European sites.
Policy E15: Creating and Protecting Views	This policy provides guidance on dealing with views in and out of a site. This is not likely to have a significant effect on any European sites.
Policy E16: Agricultural Land	This policy seeks to protect agricultural land within the Plan area. This is not likely to have a significant effect on any European sites.
Policy E17: Quality of Life and Amenity	This policy seeks to limit certain impacts that may arise as a result of development, and which can potentially affect quality of life. This is not likely to have a significant effect on any European sites.
Policy E18: Noise-Sensitive Development	This policy seeks to limit noise related impacts that may arise as a result of development. This is not likely to have a significant effect on any European sites.
Policy E19: Contaminated Land	This policy seeks to limit impacts arising as a result of contaminated land issues. This is not likely to have a significant effect on any European sites.
Policy E20: Health and Safety Executive areas and Hazardous Substances	This policy controls activities in the vicinity of notifiable institutions. This is not likely to have a significant effect on any European sites.
Policy CM1: Climate Change and Water	This policy sets out the Council's aspirations to limit the effects of climate change and is not likely to have any effect on a European site as it only establishes general aspirations / objectives.
Policy CM2: Decentralised, Renewable and Low Carbon Energy	This policy sets out the Council's aspirations to limit the effects of climate change and is not likely to have any effect on a European site as it only establishes general aspirations / objectives.
Policy CM3: Energy from Waste	This policy sets out the Council's proposals for renewable energy, including energy from waste, and includes a commitment to protect the environment. It is not likely to have an effect on a European site.

Policy	Rational
Policy CM4; Flood risk and Water management	This policy seeks to reduce flood risk, promote water efficiency measures, and protect and enhance water quality. It is not likely to have an effect on a European site.
Policy CM5: Surface Water Management	This policy seeks to reduce flood risk. It is not likely to have an effect on a European site.
Policy CM6: Water Quality	This policy seeks to maintain water quality. It is not likely to have an effect on a European site.
Policy CM7: Disposal of Foul Water	This policy sets out the objectives for dealing with foul water drainage within a site. It is not likely to have an effect on a European site.
Policy CM8: Sustainable Design and Construction	This policy sets out the Council's aspirations for sustainable design and construction and is not likely to have any effect on a European site as it only establishes general aspirations / objectives.
Policy CC1: Sustainable Travel	This policy promotes sustainable travel and seeks to enhance connectivity. It is not likely to have an effect on a European site.
Policy CC2: Connectivity and Transport Network	This policy promotes connectivity and identifies specific transport projects that are to be implemented. It is not likely to have an effect on a European site.
Policy CC3: City Centre Accessibility and Movement	This policy promotes City centre accessibility. It is not likely to have an effect on a European site.
Policy CC4: Port of Sunderland	This policy promotes the reinvigoration and future development of the Port of Sunderland. The adjacent coast supports populations of seabirds and waders and so impacts of development on these species will need to be considered.
Policy CC5: Local Road Network	This policy protects the Local Road Network to ensure the safe and efficient movement of traffic. New development must not compromise the efficient use of the network. It is not likely to have an effect on a European site.
Policy CC6: New Development and Transport	This policy seeks to ensure the provision of safe and convenient access for all road users. It is not likely to have an effect on a European site.
Policy CC7: Digital Infrastructure and Telecommunications	This policy relates to proposals for the installation of telecommunications equipment. It is not likely to have an effect on a European site.
Policy WM1: Waste Management	This policy sets out the framework for waste management within the Plan area. It includes a requirement to ensure that new waste developments are located and designed to avoid significant adverse impacts on wildlife. It is not likely to have an effect on a European site.
Policy WM2: Waste Facilities	This policy requires that new waste facilities are located on previously developed employment land and that they meet certain criteria. It is not likely to have an effect on a European site.

Policy	Rational
Policy WM3: Safeguarding Waste Facilities	This policy safeguards existing strategically important waste management sites. It is not likely to have an effect on a European site.
Policy WM4: Open waste Facilities	This policy sets out the requirements for selecting new open waste facilities. The specified site selection criteria mean that this policy not likely to have an effect on a European site.
Policy WM5: Mineral extraction	This policy requires that mineral extraction sites must ensure that the natural environment is conserved, managed and enhanced as appropriate. It is not likely to have an effect on a European site.
Policy WM6: Mineral Safeguarding Area and Minerals and Waste Infrastructure	This policy restricts development in Mineral Safeguarding Areas. It is not likely to have an effect on a European site.
Policy WM7: Opencast Coal	This policy establishes a presumption against open cast coal extraction within the City. Any proposal must be environmentally acceptable. It is not likely to have an effect on a European site.
Policy WM8: Land Instability and Minerals Legacy	This policy highlights the need for development to consider land stability and mine gas. It is not likely to have an effect on a European site.
Policy WM9: Cumulative Impact	This policy sets out the requirement to consider the cumulative impacts of minerals and waste development. It is not likely to have an effect on a European site.
Policy WM10: Restoration and Aftercare	This policy sets out the requirement for minerals and waste development proposals to include high quality restoration and aftercare. It is not likely to have an effect on a European site.
Policy ID1: Delivering Infrastructure	This policy sets out the Council's aspirations for infrastructure delivery and is not likely to have any effect on a European site as it only establishes general aspirations / objectives.
Policy ID2: Planning Obligations	This policy establishes the role of planning obligations. It is not likely to have an effect on a European site.
Policy ID3: Enforcement	This policy sets out the enforcement measures that are available to the Council. It is not likely to have an effect on a European site.