

South Sunderland Growth Area

Draft Supplementary Planning Document

HRA Appropriate Assessment

January 2016





South Sunderland
Growth Area
SPD: Appropriate
Assessment

May 2015

Prepared for:
Sunderland City Council

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APPROPRIATE ASSESSMENT
May 2015

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Note to users

This report relates solely to the component parts of SSGA as detailed within the document. Suggested mitigation measures are bespoke to this area; it should not be assumed that the proposed mitigation measures are necessarily suitable elsewhere within Sunderland or in other parts of the country.

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EXECUTIVE SUMMARY

URS has been appointed by Sunderland City Council (SCC) to undertake a Habitat Regulations Assessment (HRA) of South Sunderland Growth Area (SSGA) Supplementary Planning Document (SPD). SSGA SPD gives detail to guide development planning applications in SSGA. Incorporating several larger and smaller housing developments on the south side of Sunderland, SSGA will create a new community of 3349 dwellings with associated facilities and infrastructure. A HRA is required because of the size of SSGA and its proximity to European sites (Northumbria Coast SPA/Ramsar site and Durham Coast SAC). Following the screening stage and with agreement from Natural England on a 6km visitor pressure catchment, two Likely Significant Effects have been taken forward for Appropriate Assessment: recreational disturbance of SPA wintering birds and degradation of SAC habitat, both potentially resulting from increased visitor pressure caused by the new SSGA population.

The increase in human population and likely associated increase in recreational disturbance due to SSGA within 6km of the relevant European site sections is likely to be a minimum of 5.3%. Given that bird survey data from several sources suggests that SPA wintering bird (turnstone and purple sandpiper) populations within the 6km catchment are likely at times to represent substantially more than 1% of the SPA populations (a threshold commonly used to indicate significance of bird populations), the potential impacts of increased recreational disturbance (displacement and possibly reduced SPA carrying capacity) are significant. This would be contrary at least to the conservation objective of maintaining distribution of qualifying wintering birds, thus compromising SPA integrity and indicating that suitable mitigation should be incorporated into SSGA SPD. A combination of local bird surveys, a visitor survey and general bird disturbance studies suggest that dog-walking is likely to be the most significant issue for the qualifying wintering birds, which should therefore be addressed by the incorporated mitigation.

Detailed information concerning vegetation in the SAC and adjacent to it within the 6km catchment (obtained from condition assessment of the underlying SSSI, personal communication with the Natural England area officer who undertook the assessment, and Durham Heritage Coast Conservation Management Plan) indicates that cliff-top vegetation in SAC sections nearest SSGA is generally of poor quality, with notable grassland confined to more inaccessible steep areas. Combined with rapid natural erosion and the effects of agricultural run-off and erosion back into agriculturally-improved land and former landfill, recreational activity in the form of walking or dog-walking is not considered likely to have significant adverse effects on the SAC with or without SSGA. The small section of SAC within the 6km catchment south of Seaham is largely inaccessible cliff and is suffering from large-scale inhibited erosion caused by colliery waste on the beach, resulting in thickening vegetation and a shortage of pioneer species normally associated with the SAC habitat. A small flat area of mown grassland in the SAC just south of Seaham currently suffers no ill effects despite proximity to Seaham and being bordered by a well-used, advertised and sign-posted coastal path (Durham Coast Path and England Coast Path), and it is considered likely that SSGA visitors will continue to follow this path. Therefore no significant adverse effects on the SAC from walking or dog-walking are considered likely. However, off-road motorbike scrambling has previously been reported at the coast near SSGA, and even occasional activities of this sort have the capacity to greatly exacerbate erosion of SAC site fabric, which is intended to be a hinterland into which qualifying SAC vegetation can erode. Therefore it is considered necessary that measures are incorporated into SSGA SPD to ensure that such accelerated erosion does not occur.

In common with other schemes elsewhere in the UK where European sites required protection from visitor pressure, the incorporated mitigation for SSGA SPD will mainly comprise provision of alternative natural greenspace areas known as South Sunderland Areas of Additional Natural Greenspace (SSAANG) and Strategic Access Management & Monitoring (SAMM). By

comparing the predicted minimum increase in recreational pressure of 5.3% against the coastal recreation area within 6km (using an area similar to the 'approved coastal margin' defined for the England Coast Path), the minimum SSAANG provision in SSGA to absorb the additional visitor pressure would be 9.8ha, assuming new residents would be equally likely to engage in coastal recreation. However, in reality the SSAANG area will need to be substantially larger, primarily because of the greater proximity of SSGA to the European sites than much of the 6km catchment, and because the SSAANG cannot replicate the coastal landscape. Therefore the three largest SSGA development areas, in which SSAANG of sufficient size is feasible, will provide SSAANG at the Natural England-recommended rate of 8ha per 1000 population; this amounts to 43ha. SSAANG design will adhere to guidance within this report to ensure suitability for dog-walkers, including sufficient size and location for typical dog-walks and allowance of dogs off-lead. SSAANG will also connect to new or upgraded green links and other green infrastructure provided as part of the SSGA developments, to provide multiple walking route possibilities, and SSAANG will be maintained in perpetuity.

Those sites that are too small to accommodate a SSAANG will contribute towards a wide range of strategic access management and monitoring measures as detailed in this report, which will include: dog-leash and motorised off-road vehicle restrictions through bye-laws; appointment of a coastal ranger and other means of educating and involving the public; enforcement of dog restrictions by the coastal ranger and trained volunteers; promotion of the cliff-top England Coast Path rather than beaches; no promotion of and no access improvements to denes leading to the European sites; access improvements at north Hendon outside the European sites; and monitoring of European site qualifying features and SSAANG usage with follow-on mitigation if required (dog-bans and spatial restrictions).

Further bespoke mitigation will be undertaken at South Ryhope, the closest part of SSGA to the European sites, in the form of a strong boundary treatment along the southern edge of South Ryhope (comprising ditch, bund and dense thorny hedge) to prevent quick access southwards to Ryhope Dene and thence the coast, with additional access management at the dene mouth.

This mitigation suite, with assurance that the provided costs for SSAANG maintenance and implementation of SAMM will be secured by S106 contributions and commuted sums, is anticipated to avoid adverse effects on the integrity of the European sites and thereby also avoids in-combination effects. It is therefore concluded that the South Sunderland Growth Area SPD can be authorised by Sunderland City Council as an integral part of the Local Development Framework.

1 INTRODUCTION

1.1 Background

URS has been appointed by Sunderland City Council (SCC) to work with them in undertaking a Habitats Regulations Assessment (HRA) for the South Sunderland Growth Area (SSGA) Supplementary Planning Document (SPD). The screening stage of the HRA identified Likely Significant Effects on European sites (defined below) resulting from the SSGA SPD. An Appropriate Assessment was therefore triggered. SCC as the Competent Authority, in consultation with Natural England, must decide whether it is appropriate to conclude that there will be no adverse effects on the integrity of European sites. This report represents SCC’s Appropriate Assessment of SSGA SPD¹.

It is a requirement of the EU ‘Habitats Directive’² and the ‘Conservation Regulations’³ which implement it (see Box 1 below) that ‘land use plans’ (which would include the SSGA SPD) are subject to an Appropriate Assessment if it is likely that they will lead to significant adverse effects on statutory European sites. These include designated or candidate Special Areas of Conservation (SACs/cSACs) and Special Protection Areas (SPAs). As a matter of UK Government policy, equivalent status is given to listed and proposed Ramsar sites, proposed Special Areas of Conservation (pSACs), potential Special Protection Areas (pSPAs) and sites identified as compensatory measures for adverse effects on any of these sites.

Box 1: The legislative basis for Appropriate Assessment

EU ‘Habitats Directive’ 1992

“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 [...] 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 [...].”

Article 6 (3)

Conservation Regulations 2010

“A competent authority, before deciding to [...] give any consent [...] for a plan or project which a) is likely to have a significant effect on a European site [...] (either alone or in combination with other plans or projects), and b) is not directly connected with or necessary to the management of that site, must make an appropriate assessment of the implications for the site in view of that site’s conservation objectives.

Regulation 61 (1)

[...] subject to regulation 62 (considerations of overriding public interest) the competent authority may agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site [...].”

Regulation 61 (5)

¹In parallel with this process, a Sustainability Appraisal has been produced under the requirements of EU Directive (2001/42/ES), commonly referred to as the Strategic Environmental Assessment (SEA) Directive.

²Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

³Conservation of Habitats & Species Regulations 2010

The Habitats Directive applies the precautionary principle to protected areas: plans and projects can only be permitted having ascertained that there will be no adverse effect on the integrity of European sites. The first stage of HRA is screening, whose purpose is to establish whether the plan or project will have Likely Significant Effects on any European site; for this purpose and as a result of case law 'likely' means 'possible'. If the Competent Authority determines that there are no Likely Significant Effects (including 'in combination' effects from other plans or projects), then no further assessment is necessary, and the plan or project can, subject to any other issues, be taken forward. If, on the other hand, the Competent Authority determines that there are Likely Significant Effects, or there is reasonable doubt, then the HRA must continue to the more detailed second stage called Appropriate Assessment.

The HRA process is iterative, and the Competent Authority may consider additional incorporated mitigation following screening, consideration of which is part of the Appropriate Assessment. Compensatory measures imply that adverse effects cannot be avoided or mitigated and must not be considered during the Appropriate Assessment. If the Appropriate Assessment cannot conclude without reasonable scientific doubt that there will be no adverse effects on the integrity of European sites, then the HRA proceeds to a third stage seeking alternative solutions with no or reduced adverse effects. If no suitable alternatives can be found, potentially damaging plans or projects can be permitted only if there are Imperative Reasons of Overriding Public Interest (IROPI) as to why they should go ahead, and in such cases compensatory measures are obligatory to ensure overall integrity of the network of European sites is maintained.

1.2 Report structure

This rest of this report comprises the following sections:

- Section 2: states the methods used in the assessment;
- Section 3: describes the subject of the assessment;
- Section 4: states the scope of the assessment with information on the European sites;
- Section 5: makes the appropriate assessment, including consideration of the need for and suitability of incorporated mitigation;
- Section 6: concludes whether or not European site integrity will be maintained;
- Section 7: lists references;
- Appendix 1: provides a glossary of abbreviations used in the assessment;
- Appendix 2: holds figures with the maps referenced in the assessment.

2 METHODOLOGY

2.1 Approach

The assessment method used in this report is broadly compatible with: *Managing Natura 2000 Sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC* (European Commission, 2000); and particularly: *Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC* (European Commission, 2001). It also employs guidance in the HRA Handbook for England and Wales⁴.

The SSGA SPD is a land use plan. Many plans are more strategic and applicable to large regions. Thus HRA of a plan typically involves determining the possible effects on European sites of each policy and cross-referencing with policies in other plans for in-combination assessment. Policies may then be adjusted (e.g. ensuring that housing developments provide proportionate mitigation where necessary), but cannot typically provide specifics of mitigation and funding since this requires detailed knowledge (e.g., for a housing development, how many houses and people are involved and where they will be placed). Whilst the SSGA SPD includes an overall vision and five objectives (see section 3.2), it is the details that are crucial to HRA, namely the intention to construct specified housing quantities in specified locations and stipulating mitigation measures and funding for these. This assessment therefore considers the potential consequences for European sites of the detailed quantities and locations of housing, and whether the nature and funding of the proposed mitigation are appropriate to maintain the integrity of the relevant European sites.

This more detailed approach is helpful in addressing in-combination effects for the whole SSGA. Moreover, it permits a specific and efficient common mitigation strategy for the component developments to be developed for the SSGA SPD such that SCC can have confidence that SSGA as a whole (and the component developments) will not have adverse effects on the integrity of European sites. HRA of a component development can then refer to the contributions of that development towards the mitigation scheme in the SSGA SPD, allowing a conclusion of no adverse effects on European sites to be drawn at the project HRA screening stage (if the development does not deviate significantly from that anticipated in the SSGA SPD). That this procedure is acceptable is demonstrated by the High Court Judgement of J. Sullivan in *Hart District Council v. Secretary of State for Communities & Local Government* in 2008⁵.

The SSGA is located on the south side of Sunderland, and is very close to County Durham, of which Sunderland was historically a part. Furthermore, the European sites under consideration (see below) are located partly within that county. For these reasons, reference has been made to relevant documents associated with County Durham.

With respect to mobile qualifying species of European sites, and in accordance with the precautionary principle and Natural England advice, consideration is given where applicable to effects both within European sites and on any land outside them which has a function for the qualifying species. Birds, for example, may rely on such functional land outside of European sites for alternative foraging or for roosting at high tide, during severe weather, or during disturbance within a European site.

⁴Tyldesley, D. & Chapman, C. (2013). *The Habitats Regulations Assessment Handbook*. June 2014 edition. DTA Publications Limited.

⁵<http://www.bailii.org/ew/cases/EWHC/Admin/2008/1204.html>

2.2 Consultation

The following summarises consultation responses from Natural England:

- 26th Oct 2012 – Natural England response regarding HRA screening of SSGA SPD:
 - The proximity of the SSGA to the European sites and uncertainties of the early stages of the SPD meant that Natural England could not determine that significant effects on the European sites were unlikely, and considered that a full HRA may be required;
 - The specific concerns were increased recreational disturbance of breeding birds (little tern) and wintering birds (turnstone and sandpiper), erosion of seas cliffs and habitat loss, which were expected to be addressed in the screening process.
- 1st May 2014 – Natural England response to the HRA screening report for SSGA SPD:
 - Northumbria Coast SPA is also a Ramsar site afforded the same level of protection;
 - The precautionary 10 mile (16km) catchment for identifying potential effects on European sites was acceptable at the screening stage, but the Appropriate Assessment should be aware that the Durham County Plan HRA found that the significant majority of visitors to the coast came from within 6km, including Sunderland;
 - The Appropriate Assessment will require a robust assessment of the effectiveness and deliverability of proposed mitigation to avoid adverse effects of a significant number of homes in close proximity to Northumbria Coast SPA and Durham Coast SAC.
- 20th October 2014 – Natural England response to proposed mitigation spreadsheet:
 - The spreadsheet provided confidence that effective mitigation will be delivered and should be included in the HRA and SPD;
 - The HRA must determine that mitigation will be effective without relying on monitoring;
 - Rename ‘Habitat Management’ as ‘onsite access restrictions’ since this is the focus, habitat management is already required to achieve favourable status, and habitat creation is compensation which is a post-Appropriate Assessment consideration;
 - Measures to control behaviour of new residents need to be on-going⁶.

In 2014, additional consultations were held between SCC and Natural England which confirmed that a 6k m catchment for visitor pressure would be considered appropriate (see section 4.2 for justification).

2.3 Information sources

Information for this report has been obtained from a number of sources. The main planning documentation and data sources referred to are listed below:

⁶ This last point appears to be a misunderstanding of the mitigation text which was then re-written for clarity.

- Natural England and JNCC websites (for location and mapping of European sites, citations, conservation objectives and conservation advice for Northumbrian Coast SPA produced under Regulation 33(2) of the 1994 Conservation Regulations⁷);
- Sunderland City Council (both website and direct) for planning and other documents including (but not limited to):
 - Wintering bird survey reports by Cadwallender Consultancy;
 - TNEI ecological report for Sunderland South;
 - South Sunderland Growth Area draft SPD;
 - Sunderland draft Core Strategy, and other LDF documents;
 - SSGA Urban Design Audit 2013 Presentation;
 - HRA of Sunderland UDP Alteration No.2;
 - Sunderland Marine Walk Masterplan and Seaburn Masterplan;
- Durham County Council (DCC) website for:
 - County Durham Plan HRA and Addendum;
- BTO: WeBS (Wetland Bird Survey) data and WeBS Alerts;
- Natural England area officer covering the SSSI underlying the relevant European sites (for information on the location of breeding little terns within the Northumbria Coast SPA, and on the nature of vegetation in the SAC);
- Durham Heritage Coast website, for general information, and for Durham Heritage Coast Management Plan and Durham Heritage Coast Conservation Management Plan (the latter specifically addresses the Seaham to Hendon coastline, and provides an exceptionally detailed account of its ecology, geology, coastal processes including erosion rates, landscape and historic features);
- North East SMP2 website (for Shoreline Management Plan 2 – River Tyne to Flamborough Head).

Other sources have been referred to in specific instances, including a number of published scientific papers. These are referenced in the text and listed in the References.

⁷ Superseded by Regulation 35(3) of the 2010 Conservation Regulations, which is almost identical.

3 DESCRIPTION OF THE SSGA SPD

3.1 Local Plan Context

The Unitary Development Plan (UDP) is currently the local plan for Sunderland which allocates land uses across the city. In line with government policy this is to be replaced by a Local Development Framework (LDF). As part of the LDF, SCC is in the process of preparing a Core Strategy anticipated to be adopted in 2016, supported by Development Plan Documents (DPDs) and Supplementary Planning Documents (SPDs). The Core Strategy takes forward three unimplemented allocations from the UDP, groups them together along with other areas of land, identifies them as Locations for Major Development (LMDs) and aggregates them with neighbouring smaller housing developments as the South Sunderland Growth Area (SSGA), with the potential to meet 20% of the city's housing need and provide significant numbers of much-needed executive and larger family homes. Development pressure on sites within SSGA is anticipated and the SSGA SPD provides detail to guide development, bridging the gap between strategic policy and development planning applications.

3.2 SSGA SPD vision and objectives

The SSGA SPD vision is as follows:

“A new sustainable community will be created in South Sunderland which provides a choice of high quality homes in a landscaped setting, well connected to the surrounding area and new and existing local facilities. The natural and built environment will enhance the distinctive characteristics of this unique area which borders the Sunderland Green Belt and provides views across the city and coast.”

The five SSGA SPD objectives are:

- To create a high quality built environment which makes the most of existing topography, landscape features, water courses, trees and plants, wildlife habitats, site orientation and microclimate.
- To create a new community with distinct architectural and landscape features which give the place a unique sense of character. This can be delivered through innovative design.
- To deliver high quality executive housing and wider housing choices which integrate and enhance the existing architectural and landscape features of the area.
- Provide new facilities including local centres, primary schools and open space where the greatest number of new and existing residents can access them easily and safely.
- To create development which is well-connected to the surrounding area and facilities by road, footpath, cycle route and public transport link.

3.3 Location and quantity of housing in SSGA

A wide-scale location map of SSGA, also showing European sites, is given in Figure 1 (see Appendix 2). Figure 2 (see Appendix 2) is a closer view of SSGA showing the component development areas. SSGA covers 250ha on the south side of Sunderland. The majority of SSGA comprises four LMDs: Chapelgarth, Land North of Burdon Lane, Cherry Knowle and South Ryhope, with anticipated housing allocations of 650, 955, 770 and 450 houses respectively. The smaller neighbouring housing developments within SSGA are Land at Burdon Lane (for which an application for development of 114 houses has already been made), Rushford Phase 2 (150 houses anticipated) and Silksworth Lane (160 houses

anticipated); there is currently also a windfall site at the pre-application stage (100 houses anticipated). The combined expected housing allocation for the whole SSGA is therefore 3349. It is anticipated that development of the SSGA, incorporating new infrastructure and community facilities as well as housing, will take place over a period of 15 to 20 years.

The closest part of the SSGA to the relevant coastal European sites (described further below) is the South Ryhope LMD, which is 420m away at the closest point. The intervening land comprises arable fields and peripheral vegetation, mainly rough grassland. Natural England generally considers that within 400m of protected sites it is not possible to rule out adverse effects on protected sites from residential developments, particularly where the qualifying species include birds. Such adverse effects include predation by domestic cats (average domestic cat roaming distance was found in one study to be just under 400m⁸) and various impacts from human activity. Although there is no clear cut-off at 400m, this buffer distance represents a pragmatic measure to significantly reduce impacts on European sites⁹. A 400m buffer on protected European sites is therefore commonly applied throughout the UK. This does not mean that developments beyond 400m require no mitigation: up to a distance commonly established by robust analysis of visitor habits, suitable mitigation measures are required in order to ascertain with reasonable certainty that there will not be adverse effects on the integrity of protected European sites (in accordance with the relevant parts of the Habitats Directive and Conservation Regulations – see section 1.1).

⁸Turner, 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.

⁹Liley, D., Clarke, R., Tyldesley, D., Underhill-Day, J. & Lowen, J. (2006). *Evidence to support Appropriate Assessment of development plans and projects in south-east Dorset*. Report to Dorset County Council.

4 SCOPE OF THE APPROPRIATE ASSESSMENT

4.1 Conclusions of the screening stage

The screening stage for the SSGA SPD could not rule out the following Likely Significant Effects (LSE), which are therefore taken forward for Appropriate Assessment:

- Visitor pressure causing recreational disturbance of the qualifying wintering birds of Northumbria Coast SPA/Ramsar site;
- Visitor pressure causing degradation of qualifying habitats in Durham Coast SAC.

Visitor pressure on qualifying SPA breeding birds was also identified at the screening stage as a third LSE. This concerned Little Tern *Sterna albifrons*, but was later ruled out owing to the acceptance of a 6km visitor pressure catchment (justification for which is given in section 4.2), since the nearest Little Tern colony is nearly three times further away (15km) to the south at Crimdon.

4.2 Catchment for visitor pressure

A precautionary distance of 10 miles (16km) was used at the screening stage to identify European sites at potential risk of adverse effects, based on use of this figure in an earlier version of the County Durham Plan Appropriate Assessment which itself employed a visitor survey. However, discussions between Natural England and Durham County Council in 2013 regarding HRA of the County Durham Plan established that visitor pressure beyond 6km of the coast can be considered insignificant. The basis for this is explained in the addendum to the pre-submission County Durham Plan¹⁰, which utilises data from a coastal visitor survey¹¹ and a data analysis based on work on the Solent¹² employing a 75% significance rule. The analysis took the number of visits from each postcode location, grouped them into distance bands, annualised them based on frequency of visits (giving 19,565 total annualised visits), and determined by cumulatively adding the visits from progressively more remote distance bands that a significance level of 75% of visits is reached (in this case) at approximately 6km. Since the study area of the coastal visitor survey closely approached the SSGA and included respondents from Sunderland, Natural England agreed that this 6km distance could also be used in the Appropriate Assessment of SSGA SPD.

Using the revised 6km visitor pressure catchment, the Northumbria Coast SPA/ Ramsar site and Durham Coast SAC are the only European sites at risk of Likely Significant Effects from the SSGA SPD, and the relevant qualifying features exclude little tern as noted in section 4.1 above. The qualifying features, conservation objectives and vulnerabilities of these sites are given below. Their boundaries coincide exactly or very closely with underlying constituent SSSI management units which can be referred to for site condition, although, as explained in section 5.2.1 below, this is misleading (in this case) for wintering birds.

¹⁰Durham County Council (2014). *Addendum to the Habitat Regulations Assessment of the County Durham Plan Pre-Submission*. Durham County Council.

¹¹Bluegrass Research (2013). *Durham Heritage Coast Coastal Visitor Survey 2012/2013*. Report to Durham County Council.

¹²Clarke, R., Fearnley, H., Liley, D., Stillman, R. & West, A. (2012). *The Solent Mitigation and Disturbance Project – Non-technical summary*. Footprint Ecology & Bournemouth University.

4.3 Northumbria Coast SPA / Ramsar site

Northumbria Coast SPA (and the Ramsar site coincident with it) in total covers 1,108ha spread out in a long discontinuous coastal strip, the majority of which is in Northumberland and beyond the 6km visitor pressure catchment (explained above). 97% of the site comprises sea cliffs, shingle and islets; the majority of the remainder is sand dunes and beach. Since this site incorporates marine areas, it is also a ‘European Marine Site’ (EMS) and consequently advice was produced by the (then) English Nature under Regulation 33(2) of the Conservation Regulations.

4.3.1 *Qualifying features*

The qualifying features of the SPA and Ramsar site are the same. Population data for qualifying species in the Standard Natura 2000 Data Form for Northumbria Coast SPA comprises 5-year peak means for the period 1992/3-1996/7, and the SPA review uses 5-year peak means for 1991/2-1995/6. However, the Ramsar Information Sheet incorporates equivalent population data for the period 1998/9-2002/3. Since the Ramsar site exactly parallels the SPA, and there has been a general trend towards lower numbers of Turnstone and Purple Sandpiper¹³ which will not be reflected in older population estimates, the more recent population details of the Ramsar Information Sheet are given in the table below.

Table 1 Qualifying features of the Northumbria Coast SPA/Ramsar site

Qualification	Breeding/Wintering	Species	Regularly supported population
Article 4.1 of EC Wild Birds Directive	Breeding	Little Tern <i>Sterna albifrons</i>	43 apparently occupied nests, representing an average of 2.2% of the GB population (Seabird 2000 Census)
Article 4.2 of EC Wild Birds Directive	Wintering	Purple Sandpiper <i>Calidris maritima</i>	291 individuals, representing an average of 1.6% of the GB population (5 year peak mean 1998/9-2002/3)
		Turnstone <i>Arenaria interpres</i>	978 individuals, representing an average of 1% of the GB population (5 year peak mean 1998/9-2002/3)

4.3.2 *Conservation objectives*

The Northumbria Coast SPA / Ramsar site conservation objectives¹⁴ 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

¹³Cook, A.S.C.P., Barimore, C., Holt, C.A., Read, W.J. & Austin, G.E. (2013). *Wetland Bird Survey Alerts 2009/2010: Changes in numbers of wintering waterbirds in the Constituent Countries of the United Kingdom, Special Protection Areas (SPAs) and Sites of Special Scientific Interest (SSSIs)*. BTO Research Report 641. BTO, Thetford

¹⁴ As uploaded by Natural England to their website on 21/07/2014 and accessed 19/01/2015.

- The distribution of the qualifying features within the site.

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

4.3.3 **Reported site condition**

By reference to the condition of the underlying SSSI management units comprising the SPA (obtained from the Natural England website in January 2015 and indicating that the latest assessment for relevant units was in 2009) it is apparent that:

- 100% of constituent SSSI units within 6km of the SSGA was in favourable condition at the last assessment.
- The only reported negative factor concerning birds was observation of recreational disturbance (dog-walking and rock-pooling) in SSSI unit 16.

However, the above measure of SPA condition (and underlying SSSI condition) is misleading for wintering birds, as explained in section 5.2.1).

4.3.4 **Vulnerabilities**

The only listed vulnerability on the Standard Natura 2000 Data Form is disturbance of little terns by tourists at Beadnell Bay well to the north, for which the National Trust employ wardens. Little terns also occur at Crimdon near Hartlepool. Although it also only refers to the Beadnell Bay Little Terns, the Regulation 33(2) conservation advice produced by Natural England (as English Nature) indicates that the principal vulnerabilities for breeding Little Tern are noise/visual disturbance and physical loss of their nesting habitat; damage to habitat, toxic/non-toxic contamination and biological disturbance are also potential vulnerabilities, but at the time the conservation advice was produced there was no evidence of these other impacts on Little Tern. However, both Little Tern sites are well beyond the 6km visitor pressure catchment (see section 4.1) and are not considered further.

The Regulation 33(2) conservation advice states that for wintering Purple Sandpiper and Turnstone the key vulnerabilities are also noise/visual disturbance and physical loss of habitat; moderate existing exposure to disturbance is stated. Habitat damage, toxic/non-toxic contamination and biological disturbance are also potential vulnerabilities; there was no evidence for habitat damage/biological disturbance but toxic and non-toxic contamination were possible issues resulting from industrial activity. That recreational disturbance is likely to be a key vulnerability is further suggested by both local surveys and studies elsewhere (see sections 5.1 and 5.2), and also by reference to recreational disturbance as the sole risk (albeit at a low level) for this SPA in a European Marine Site risk review¹⁵.

As noted above, the HRA screening report for SSGA found that the only Likely Significant Effect on the qualifying wintering birds was recreational disturbance.

4.4 **Durham Coast SAC**

Durham Coast SAC covers 394ha, also spread out in discontinuous strips, between South Shields in the north and Crimdon near Hartlepool in the south. 31% of the site is sea cliffs/shingle/islets, 5% is grassland and the remainder is sand dunes/beaches/sea. Some parts of the SAC are exactly contiguous with parts of the Northumbria Coast SPA/Ramsar site, including the two closest parts to the SSGA.

¹⁵ Coyle, M.D. & Wiggins, S.M. (2010). *European Marine Site Risk Review*. Natural England Research Report 038, Natural England.

4.4.1 *Qualifying features*

Table 2 below gives details of the Durham Coast qualifying features, obtained from the Natural England website and Standard Natura 2000 Data Form¹⁶.

Table 2 Qualifying features of the Durham Coast SAC

Qualification	Feature	Amount	Notes
Annex 1 habitat	Vegetated sea cliffs of the Atlantic and Baltic coast	30.6% of site (120ha)	JNCC description: the only example of vegetated sea cliffs on magnesian limestone exposures in UK. Cliffs extend for over 20 km from South Shields to Blackhall Rocks. Vegetation unique in the British Isles: complex mosaic of paramaritime, mesotrophic and calcicolous grasslands, tall-herb fen, seepage flushes and wind-pruned scrub. Includes rare species of contrasting phytogeography forming unusual species-rich communities. Communities on sea cliffs largely maintained by natural processes including exposure to sea spray, erosion and slippage of magnesian limestone bedrock and glacial drifts, and localised flushing by calcareous water.

4.4.2 *Conservation objectives*

The Durham Coast SAC conservation objectives¹⁷ 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.

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

4.4.3 *Reported site condition*

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 6km of the SSGA was in favourable condition at the last assessment;
- The remainder of the constituent SSSI units were in unfavourable recovering condition.

¹⁶ The Standard Natura 2000 Data Form also lists ‘Fixed dunes with herbaceous vegetation (grey dunes)’ as a qualifying feature, but since this is not stated in the current citation from Natural England, and the only location in the SAC is well beyond the 6km visitor pressure catchment, this feature is not considered further.

¹⁷ As uploaded by Natural England to their website on 17/07/2014 and accessed 19/01/2015.

4.4.4 ***Vulnerabilities***

The Standard Natura 2000 Data Form mentions that parts of the SAC are managed as a National Nature Reserve (these parts are not close to the SSGA), and that the majority of the site is in public ownership and a management plan is being developed to protect nature conservation interests. Specific vulnerabilities are not mentioned; however, the nature of the site, the presence nearby of substantial human population, knowledge of impact pathways elsewhere (see examples in section 5.3) and information in Durham Heritage Coast Conservation Management Plan¹⁸ suggest that likely vulnerabilities would include 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.

Of the possible impact pathways, the HRA screening report for SSGA found recreational disturbance to be the only Likely Significant Effect.

¹⁸ Durham Heritage Coast Staff Unit (2005). *Durham Heritage Coast Conservation Management Plan*. Durham Heritage Coast Partnership.

5 APPROPRIATE ASSESSMENT

Please note that for brevity Northumbria Coast SPA/Ramsar site is from here on generally referred to as 'Northumbria Coast SPA' or 'the SPA' (since both sites are coincident with the same qualifying features), and all three relevant designations are generally referred to as 'the European sites'.

5.1 Significance of recreational pressure

5.1.1 *Significance of recreational pressure on birds*

Time that birds spend responding to disturbance is time not spent feeding and results in unnecessary energy expenditure¹⁹, and thus risks increasing energetic output while reducing energetic input. This can adversely affect condition and ultimately survival of birds. Displacement from one feeding site to others also increases pressure on available resources²⁰.

Several empirical studies, including one relatively local study at Teesmouth & Cleveland SPA and one specifically concerning Turnstones, show that disturbance can be significant:

- Linaker²¹ found during a survey of recreational activity at Teesmouth & Cleveland SPA that 28% of activities caused a disturbance event, and that dog walking generally accounted for the majority of events and caused the greatest mean disturbance.
- Webb²² found that dog-walking had the greatest negative cumulative effect on Turnstones in Thanet & Sandwich Bay SPA, and disturbance was greatest at high tide except during maximum disturbance events (dogs actively chasing Turnstones).
- Liley & Fearnley²³ found during an extensive survey of disturbance on intertidal habitats in Kent that major disturbance flights were more likely with dogs present and at high tide, and dog-walking caused 55% of all major flights.
- Thomas *et al*²⁴ found that recreational disturbance especially by dogs reduced foraging time of sanderlings, and recommended enforcement of dog-leash laws.
- Tuite *et al*²⁵ found that high recreational activity caused bird numbers at Llangorse Lake to decrease by 30%, matching the increase in recreational activity, and caused birds to spend less time in 'preferred zones'.
- Underhill *et al*²⁶ correlated disturbance with a decrease in waterfowl numbers at smaller sites and with movement from disturbed to less disturbed areas at larger sites, at 54 water bodies in the South West London Water Bodies SPA.

¹⁹Riddington, R., Hassall, M., Jane, S.J., Turner, P.A. & Walters, R., (1996). The impact of disturbance on the behaviour and energy budgets of Brent Geese *Branta b. bernicla*. *Bird Study* **43**:269–279.

²⁰Gill, J.A., Sutherland, W.J. & Norris, K. (1998). The consequences of human disturbance for estuarine birds. *RSPB Conservation Review* **12**: 67-72.

²¹Linaker, R. (2012). *Recreational Disturbance at the Teesmouth and Cleveland Coast European Marine Site*. Report to Natural England.

²²Webb, K. (2002). *The effects of human activity on turnstones and other wading birds within the Thanet and Sandwich Bay Special Protection Area (SPA)*. Report to English Nature.

²³Liley, D. & Fearnley, H. (2011). *Bird Disturbance Study, North Kent 2010/11*. Footprint Ecology.

²⁴Thomas, K., Kvitek, R. G. & Bretz, C. (2003). Effects of human activity on the foraging behavior of sanderlings *Calidris alba*. *Biological Conservation* **109**: 67-71.

²⁵Tuite, C., H., Owen, M. & Paynter, D. (1983). Interaction between wildfowl and recreation at Llangorse Lake and Talybont Reservoir, South Wales. *Wildfowl* **34**: 48-63.

- Evans & Warrington²⁷ found that on Sundays water bird numbers were 19% higher on Stocker's Lake LNR, and attributed this to observed greater recreational activity on surrounding water bodies at weekends relative to week days.
- Burger *et al*²⁸ found that human disturbance of shorebirds at Delaware Bay in the US declined sharply after management actions, including dog-leash encouragement, installation of signs with information on the shorebirds, and spatial access restrictions.

5.1.2 *Significance of recreational pressure on vegetation*

Most types of aquatic or terrestrial European site can be affected by trampling, which causes soil compaction and erosion, and can change vegetation composition. Walkers with dogs can contribute additional pressure on vegetation through nutrient enrichment via dog fouling. Empirical studies demonstrate these damaging effects on vegetation, for example:

- Cole *et al*²⁹ (1995a, b) conducted experimental off-track trampling in various habitats in the USA: low mat-forming grasses recovered best, while tall non-woody non-grass species were least resistant; plants with buds below the soil surface were most resilient, and those with buds above the soil surface least resilient.
- Chappell *et al*³⁰ in a chalk grassland study found that increased trampling caused highly significant differences in the structure of plant and animal communities and soils. Trampling drastically reduced certain species, some desirable; others, often less desirable, favoured moderate trampling; an undesirable coarse grass favoured the most and least trampled areas. Invertebrates generally showed reduced abundance.
- Hirst *et al*³¹ found in a study on Salisbury Plain that neutral grasslands typically took 30–40 years to re-establish following disturbance, but calcareous grasslands took at least 50 years, and even after long time periods there were significant differences between disturbed and undisturbed swards, with perennial herbs, particularly hemicryptophytes, persisting at higher frequencies in swards disturbed 50 years ago.
- Vujnovic *et al*³² confirmed in Canada that both lack of and heavy disturbance led to lower plant diversity, and non-native plant diversity was higher with more disturbance.
- Atkinson *et al*³³ found that increased disturbance and trampling were amongst the factors (primarily fertilising, grazing and mowing) that reduced herb diversity and quantity in UK improved grasslands, negatively affecting invertebrates and birds.

²⁶ Underhill, M. C., Kirby, J. S., Bell, M. C., & Robinthwaite, J. (1993). *Use of waterbodies in south-west London by waterfowl. An investigation of the factors affecting distribution, abundance and community structure*. Report to Thames Water Utilities Ltd and English Nature. Wetlands Advisory Service, Slimbridge.

²⁷ Evans, D.M. & Warrington, S. (1997). The effects of recreational disturbance on wintering waterbirds on a mature gravel pitlake near London. *International Journal of Environmental Studies* **53**: 167-182.

²⁸ Burger, J., Jeitner, C., Clark, K. & Niles, L. J. (2004). The effect of human activities on migrant shorebirds: successful adaptive management. *Environmental Conservation* **31**: 283-288.

²⁹ Cole, D.N. (1995). Experimental trampling of vegetation. I. Relationship between trampling intensity and vegetation response. *Journal of Applied Ecology* **32**: 203-214.

³⁰ Chappell, H.G., Ainsworth, J. F., Cameron, R. A. D. & Redfern, M. (1971). The effect of trampling on a chalk grassland ecosystem. *Journal of Applied Ecology* **8**: 869-882.

³¹ Hirst, R. A., Pywell, R. F., Marrs, R. H. & Putwain, P. D. (2005). The resilience of calcareous and mesotrophic grasslands following disturbance. *Journal of Applied Ecology* **42**: 498-506.

³² Vujnovic, K., Wein, R. W. & Dale, M. R. T. (2002). Predicting plant species diversity in response to disturbance magnitude in grassland remnants of central Alberta. *Can. J. Bot* **80**: 504-511.

³³ Atkinson, P. W., Buckingham, D. & Morris, A. J. (2004). What factors determine where invertebrate-feeding birds forage in dry agricultural grasslands? *Ibis* **146**: 99-107.

- Taylor *et al*³⁴ noted that dog faeces encourages decreased plant diversity, and increases species of improved habitats and lush growth; it was also noted that dogs typically defecate within 400m of a walk starting, but urinate at regular intervals.

5.2 Baseline conditions – Northumbria Coast SPA

The qualifying wintering bird species of the Northumbria Coast SPA are Purple Sandpiper and Turnstone. Both species prefer rocky intertidal shore for foraging, although Turnstone make some use of soft shore habitats particularly if seaweed-strewn. The section of SPA closest to the SSGA (underlying SSSI units 14 and 15) includes areas of such preferred rocky shore, and is also part of Durham Coast SAC. Also within the 6km visitor pressure catchment are SPA sections with rocky shore habitat further south at Seaham (underlying SSSI units 16 and 17), and SPA sections covering parts of the harbour/piers at Seaham where disturbance by people is unlikely and which are used by qualifying species for roosting (underlying SSSI unit 19); these sections are not part of Durham Coast SAC.

5.2.1 *Condition assessment of underlying Durham Coast SSSI*

The condition assessment of the underlying SSSI management units within 6km of SSGA (see above) found that 100% of the SPA was favourable. It mentions recreational disturbance of shorebirds in SSSI unit 16. However, the SSSI condition assessment took place almost entirely in the summer, and so cannot on its own fully assess favourability for and use by SPA-qualifying wintering birds. The following section therefore considers other sources of information concerning Purple Sandpiper and Turnstone, primarily: BTO Wetland Bird Survey (WeBS) data; the report 'A study of over-wintering waterbirds of the Durham Coast' and the subsequent second year report (Cadwallender Consultancy, 2012 and 2013³⁵); the report 'SCC Sunderland South Ecological Report' (TNEI Services Ltd, 2013³⁶); and bird data (from Durham Bird Club) quoted in the HRA for Seaburn Masterplan SPD³⁷.

5.2.2 *Numbers and distribution of SPA wintering birds*

*BTO WeBS data*³⁸

Consolidated data for Purple Sandpiper and Turnstone were obtained for the whole Northumbria Coast SPA, the Sunderland to Hartlepool section of coastline³⁹, and for the two WeBS core count sectors adjacent to the Growth Area, and are shown in Table 3 below.

³⁴Taylor, 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.

³⁵ Cadwallender, T. & Cadwallender, M. (2012) *Review of over-wintering waterbirds of the Durham Coast*. Report to Durham County Council. Cadwallender Consultancy;

Cadwallender, T. & Cadwallender, M. (2013). *A second year review of over-wintering waterbirds of the Durham Coast*. Report to Durham County Council. Cadwallender Consultancy.

³⁶TNEI Services Ltd (2013). *Sunderland South Ecological Assessment, Management Plan & Design Strategy*. Report to Sunderland City Council. TNEI Services Ltd, Newcastle.

³⁷URS Scott Wilson Ltd (2011). *Seaburn Masterplan SPD Habitats Regulations Assessment*. Report to Sunderland City Council.

³⁸Data were supplied by the Wetland Bird Survey (WeBS), a partnership between the British Trust for Ornithology, the Royal Society for the Protection of Birds and the Joint Nature Conservation Committee (the last on behalf of the statutory nature conservation bodies: Natural England, Natural Resources Wales, Scottish Natural Heritage and the Department of the Environment Northern Ireland) in association with the Wildfowl and Wetlands Trust.

³⁹A request was initially made for a consolidated strip more symmetrically placed either side of the SSGA, but the Hartlepool-Sunderland consolidation was the best available at the time.

Table 3 BTO WeBS data

Winter of peak count or other measure	Purple Sandpiper	Turnstone
<i>NORTHUMBRIA COAST SPA</i>		
Mean Peak (2008/9-2012/13)	236	681
% of national threshold in winter	182%	142%
% of international threshold in winter	33%	49%
<i>SUNDERLAND TO HARTLEPOOL</i>		
Mean Peak (2006/7-2010/11)	42	87
% of national threshold in winter	32%	18%
% of international threshold in winter	6%	6%
<i>HENDON TO RYHOPE DENE</i>		
Peak 2005/6 (the only winter data available for 2001-2011)	5	53
% of national threshold in winter	4%	11%
% of international threshold in winter	1%	4%
<i>RYHOPE DENE TO SEAHAM HARBOUR</i>		
No data	No data	No data

Note that few data were available for sections of coast close to the SSGA. The data were requested at HRA screening, except for consolidated data for the whole Northumbria Coast SPA which for comparative purposes were requested recently for this assessment. Other WeBS data were not re-requested because missing recent years (2011 to 2013) are covered by detailed repeated wintering bird surveys specifically undertaken locally to inform this HRA and other assessments in County Durham and Sunderland (see Cadwallender and TNEI surveys below).

Cadwallender bird data

The Cadwallender reports investigated the foraging and roosting locations of wintering birds from December 2011 to March 2012 and from December 2012 to March 2013 along the coast from Salterfen Rocks (north of SSGA) south to Hartlepool. The methodology was largely based on the BTO WeBS survey, but differed in having 13 visits each year spread over the period December-March inclusive. They state that levels of wintering bird activity in this area were relatively low. Survey records for Turnstone and Purple Sandpiper were considerably lower in the 2012/13 season compared to the 2011/12 season (76% and 30% less respectively); however, there can be high natural variability between years.

The Cadwallender study found a maximum of 22 Turnstones at Salterfen Rocks in 2011/12, the largest number in the study except for those at or near Hartlepool, with much smaller and occasional occurrence of Turnstone elsewhere (within the 6km catchment) at SSSI unit 17 at Seaham (up to 3 birds); counts of similar magnitude to Salterfen did not occur until substantially further south at Blackhall Rocks and particularly Hartlepool. The maximum number of Purple Sandpiper was only 6 in 2011/12, also at Salterfen, and this species was only encountered elsewhere in this study at or near Hartlepool where counts of up to 13 occurred in the headland vicinity. No high tide roosting areas were found near the SSGA, the nearest occurring at Seaham Harbour and supporting Turnstone but not (during this study) Purple Sandpiper (however, Durham Heritage Coast Management Plan does indicate a Purple Sandpiper roost at Seaham).

TNEI bird data

The TNEI report included survey of foraging and roosting wintering birds from January to March 2013 along the coast adjacent to the SSGA from Salterfen Rocks (north of the SSGA) to Byron's Dene (north of Seaham). This survey involved nine visits: three diurnal high tide, three diurnal low tide and three nocturnal high tide. The diurnal surveys differed from a typical survey based on the BTO WeBS methodology in covering only three months, and on each visit counts were made approximately hourly for two/three hours either side of high/low tide, to establish the highest counts on those days. Recorded levels of wintering bird activity in this area were relatively low. Further evidence was noted of significant recreational disturbance from fishermen, dog-walkers and on one occasion model aeroplane flying. 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 only at high tide. Two high tide roosting areas were found near the SSGA, at Ryhope Dene and Ryhope Nook outflow pipe (just south of Salterfen Rocks), supporting Turnstone and Purple Sandpiper.

Other bird data

Data from Durham Bird Club (DBC) recorded in the period 2006-2009 (reported in Seaburn Masterplan HRA, and mostly comprising *ad hoc* records) also included observations at Salterfen Rocks. Within the same period as the above mean peaks for the whole SPA, these included maxima of 7 Purple Sandpiper and 30 Turnstone at Salterfen, amongst the largest recorded in that data. The largest high tide roosts near Sunderland for Turnstone and Purple Sandpiper were found by DBC at Sunderland dock/marina (constituting important functional land outside the SPA, with the largest single count being 100 Turnstone in 2006 on New South Pier) and Seaham Harbour (which is partly in the SPA), and much further south at Hartlepool, all utilising situations where human disturbance is unlikely.

The Seaburn Masterplan HRA also included bird survey data from Argus Ecology obtained in 2010/2011. These surveys ranged from Sunderland Marina northwards and are thus mostly outside the 6km catchment for SSGA. Turnstone and Purple Sandpiper were noted within 6km at Roker (North Pier and Roker Pier/Rocks), where monthly counts ranged from zero to 19 Turnstone and zero to 5 Purple Sandpiper. Of note is the occurrence of several Turnstone in December 2010 on grass at Roker Cliff Park, which is beyond the 6km catchment but is the only record found of qualifying wintering bird species on terrestrial functional land. However, the majority of Turnstones and all Purple Sandpipers during this survey were observed on the shore or piers.

With further regard to functional land outside the SPA closer to SSGA, no evidence was found for either Turnstone or Purple Sandpiper with the exception of some parts of Seaham Harbour not in the SPA that were noted during the Cadwallender surveys as high tide roosts. This is expected given their habitat preferences: although wintering Turnstones may use coastal short grassland or bare fields in severe weather, they are almost exclusively found on the shore, whilst wintering Purple Sandpipers rarely venture above the high tide mark, both primarily inhabiting rocky shores^{40 41}.

5.2.3 ***Recreational disturbance of SPA wintering birds locally***

Whilst the SSSI condition assessment noted recreational disturbance (albeit during the summer, but including dog-walkers) in underlying SSSI unit 16, better evidence for recreational disturbance within the 6km catchment is given in the Cadwallender and TNEI surveys.

⁴⁰Forrester, R. & Andrew, I. (eds) (2007). *The Birds of Scotland*. Scottish Ornithologists' Club, Aberlady.

⁴¹Therefore terrestrial habitat management is unlikely to benefit Turnstone or Purple Sandpiper.

Heavy recreational disturbance from walkers and dog-walkers was noted in the Cadwallender reports at many locations, and the authors stated: "It is our opinion [...] that recreational pressure is a major contributing factor to the depressed populations of wading birds" which they considered "...has a significant impact on feeding and roosting opportunities for wading birds." Whilst the Cadwallender surveys covered a large amount of soft shore, they also covered areas of rocky substrate including that in the closest SPA section to SSGA between Salterfen Rocks and Ryhope Dene. Specific mention was made of recreational disturbance (walkers with and without dogs) in the vicinity of Salterfen Rocks and Pincushion, where birds were observed utilising the rocky but not the soft shore. Whilst Purple Sandpiper and Turnstone make little use of soft shores, this does not imply a lack of disturbance to the rocky shore: it would be unwise to presume this given that a) rocky and soft shore substrates often occur in mixed patches in this area (visible in aerial photography), and that b) access points to the shore at Salterfen, Village Dene and Ryhope Dene are at or very close to rocky substrate such that absence of rocky substrate disturbance would be unlikely. Even if recreational disturbance were infrequent, this does not necessarily equate with insignificance: studies⁴² have shown that infrequent activities can cause greater disturbance since habituation is less likely. Further evidence of walkers (with and without dogs) causing disturbance locally is given by the TNEI survey: although it states that the majority of walkers/dog-walkers were on open beach, it maps the occurrence of walkers/dog-walkers along the whole coast of their study area from Salterfen Lane near Salterfen Rocks to Byron Dene near Seaham. It is also notable that the Cadwallender surveys found no Purple Sandpipers and only infrequent Turnstones in very small quantity at apparently suitable SPA rocky substrate in SSSI units 16 and 17, which are at Seaham where human coastal visitors are frequent. Finally, the regulation 33(2) advice for Northumbria Coast SPA notes that the qualifying wintering birds are moderately sensitive and vulnerable to disturbance, and also states that they are currently moderately exposed to it. It would be in line with the precautionary principle to assume from this information that some disturbance of rocky shore substrate in the SPA section close to SSGA is likely to be occurring, and that the SSGA could cause further such disturbance.

The recreational disturbance study at Teesmouth & Cleveland SPA is the nearest study to SSGA that objectively measured recreational disturbance on birds, as opposed to the observation of disturbance during bird surveys. The study was outside the 6km catchment, but concerned another SPA and European Marine Site in County Durham/Cleveland, with wading bird interest, proximity to large urban areas and incorporation of a promoted coastal path. Although it clearly cannot provide direct evidence about Northumbria Coast SPA, these similarities provide further support for the types of recreational disturbance likely to be most significant in Northumbria Coast SPA, and it is notable in this respect that dog-walking was again highlighted as a major factor⁴³. Further support for the likelihood of dog-walking as a significant factor locally comes from the coastal visitor survey undertaken for County Durham Plan HRA⁴⁴, which closely approached SSGA and included respondents from Sunderland, and found that 60% of visitors were dog-walking.

5.3 Baseline conditions – Durham Coast SAC

The closest section of the SAC to SSGA runs from Ryhope to Hendon corresponding to underlying SSSI units 14 and 15, and comprises cliffs with a narrow cliff-top strip, and the shore; this section is also part of Northumbria Coast SPA. Also within the 6km visitor pressure

⁴² E.g. Burger J. (1981). The effect of human activity on birds at a coastal bay. *Biol. Conserv.* **21**: 231-241.

⁴³ Bait-digging was also a major factor in some places but this form of disturbance does not take place in the rocky substrates favoured by the qualifying SPA wintering bird surveys.

⁴⁴ Bluegrass Research (2013). *Durham Heritage Coast Coastal Visitor Survey 2012/2013*. Report to Durham County Council.

catchment is the short SAC section beginning just south of Seaham and extending to Chourdon Point, corresponding to the northern parts of underlying SSSI units 20 and 23, and comprising cliffs, beach and, at the north end, a narrow strip of flat mown grassland; this section is not part of Northumbria Coast SPA.

5.3.1 **Condition assessment of underlying Durham Coast SSSI**

The condition assessment of the underlying SSSI management units within 6km of SSGA (see above) found that 64% (by area) of the SAC was favourable, and the rest unfavourable recovering. The sections nearest SSGA were favourable but not described as botanically notable. The unfavourable section was the short stretch within the 6km catchment just south of Seaham, which was suffering inhibited erosion. Further details from the SSSI condition assessment and other sources are given in the next section.

5.3.2 **Evidence for local SAC condition**

The following background information about SAC vegetation within the 6km visitor pressure catchment was extracted from the site condition data for the SSSI management units underlying the SAC and by direct communication with the relevant Natural England area officer who undertook the SSSI condition assessment:

- The two constituent SSSI management units of the SAC closest to the SSGA are units 14 and 15. These units were described as 'favourable' but are primarily of interest for the rocky shore and associated non-breeding birds (some of which are relevant to the Northumbria Coast SPA; see above), with relatively low floristic value compared to other parts of the SAC. The cliff tops of units 14 and 15 were described as 'poor grassland with little species diversity', with the exception of a strip on sloping ground between units 14 and 15 (at Village Dene) which supported a small selection of more notable and calcicole species including bloody cranesbill *Geranium sanguineum*, bird's-foot trefoil *Lotus corniculatus* and lady's bedstraw *Galium verum*.
- Further south, the relevant parts of the SSSI are the northern parts of SSSI units 20 and 23. These units were in 'unfavourable recovering' condition resulting not from visitor pressure but from impeded coastal erosion as a result of legacy mine waste. This has caused decreased frequency of pioneer species concomitant with development of more rank vegetation, a situation which is slowly improving as the waste is itself eroded away. The narrow flat strip of mown grassland at the north end of SSSI unit 20 contains species-rich magnesian limestone grassland; no negative effects were noted for this area.

The northern part of SSSI unit 20 with the flat mown strip of magnesian limestone grassland is immediately adjacent to a well-used public footpath, constituting part of the England Coast Path and Durham Coast Path. The England Coast Path also continues along the cliff-tops of SSSI units 14 and 15.

With further regard to SSSI units 14 and 15 closest to the SSGA, useful information is given in the Durham Heritage Coast Conservation Management Plan⁴⁵:

- Small areas of magnesian limestone grassland were stated as remaining in open parts of Ryhope Dene, but only on steep slopes and small outcrops, and these were in danger of being lost to scrub/rank grass. Surviving patches included typical species such as common rockrose *Helianthemum nummularium*, carline thistle *Carlina vulgaris*, burnet saxifrage *Pimpinella saxifraga*, yellow wort *Blackstonia perfoliata*, greater

⁴⁵Durham Heritage Coast Staff Unit (2005). *Durham Heritage Coast Conservation Management Plan*. Durham Heritage Coast Partnership.

knapweed *Centaurea scabiosa*, fragrant orchid *Gymnadenia conopsea* and thyme *Thymus polytrichus*. However, it was also stated that a more recent survey found much of this grassland to have become rank and that many such species may have been lost, though remnants remained.

- A similar situation was described for the cliffs in the northern part of SSSI unit 14, where calicoles and maritime species such as field scabious *Knautia arvensis*, thyme and thrift *Armeria maritima* had been recorded, but again a more recent survey found much of the grassland to be rank and reported that such plants might have been lost to coastal erosion, with the cliff eroding back into agriculturally-improved land.

5.4 Predicted effects of unmitigated SSGA

5.4.1 *Effect of SSGA on visitor pressure*

The SSGA will provide an estimated 3349 homes. Using the average household size for Sunderland of 2.27⁴⁶, the SSGA will support an estimated population of 7,603 (rounded up to the nearest whole number). Although in reality some of the new housing is likely to be occupied by the existing Sunderland population, a precautionary approach is taken here and the estimated SSGA population of 7,603 is treated as entirely additional to the existing population.

In order to make a crude estimate of the difference that the SSGA population is likely to make to existing recreational disturbance on the European sites, the SSGA population can be compared with the existing relevant population. As explained in section 4.2, the visitor pressure catchment is regarded as 6km. The existing population within 6km of the same sections of the European sites that will potentially be affected by the SSGA is estimated at 143,273. This figure was obtained by summing the 'usual resident population' of relevant areas, obtained from the 2011 Census, and shown in Table 4 below. Those areas of Sunderland not included in Table 4 are largely or entirely outside the 6km distance from the affected sections of European sites, and include Castle, Red Hill, Coalfield and Washington. Also excluded are the other parts of Sunderland North (Fulwell, St Peter's and Southwick) on the basis that people in these areas are on the other side of the River Wear and the significant majority are more likely to engage in recreational activity at the much closer and more accessible Whitburn coast; this is also precautionary to avoid underestimating the effect of the SSGA.

Table 4 Populations within 6km catchment

Area name	Usual resident population
Doxford (Sunderland East)	9,870
Hendon (Sunderland East)	12,597
Millfield (Sunderland East)	11,958
Ryhope (Sunderland East)	10,484
St Michael's (Sunderland East)	10,998
Barnes (Sunderland West)	10,987
Pallion (Sunderland West)	10,117
St Anne's (Sunderland West)	11,067
St Chad's (Sunderland West)	9,449
Sandhill (Sunderland West)	11,128
Silksworth (Sunderland West)	10,531

⁴⁶Office of National Statistics, 2011 Census.

<i>Sunderland total</i>	119,186
Easington (County Durham)	7,693
Murton (County Durham)	7,975
Seaham (County Durham)	8,419
<i>County Durham total</i>	24,087
TOTAL	143,273

Comparison of the SSGA population with the above wider population indicates an increase of 5.3% in the population likely to be involved in recreational disturbance of European site sections within 6km of the SSGA. Assuming that the new SSGA population will be as likely as the existing 6km catchment population to engage in recreational activity at the coast, the likely increase in recreational disturbance by this simple measure is a minimum of 5.3%. In reality the level of recreational disturbance increase will be higher because the eastern part of the SSGA, particularly the South Ryhope section, is in close proximity to the relevant European sites (minimum 420m) and closer than the majority of existing population within the 6km catchment.

5.4.2 **Significance of local wintering birds**

Although the WeBS data show modest numbers of Turnstone and Purple Sandpiper for the whole Northumbria Coast SPA, these numbers nevertheless clearly represent nationally important populations of both species, since the national threshold percentages are well over 100%. Close to SSGA, the WeBS data show a small number of Purple Sandpiper but somewhat more significant number of Turnstone, but a cautionary comparison with the whole SPA suggests that these figures might still represent 2% and 5% of the SPA Purple Sandpiper and Turnstone populations respectively, which is not insignificant. A further cautionary comparison with the wider Sunderland-Hartlepool coast suggests that at least at certain times a large proportion of the Sunderland-Hartlepool Turnstone population occurs at the coast near the SSGA. The WeBS data also indicate that over the whole SPA almost all of the Purple Sandpiper were recorded in the period October to April, and the majority of Turnstone in the period September to April.

The bird numbers from the Cadwallender, TNEI and DBC surveys are not wildly different to the WeBS data for Hendon-Ryhope Dene. There were smaller numbers of Purple Sandpiper and Turnstone reported by the more recent Cadwallender surveys compared to the earlier Cadwallender surveys, and the WeBS data recorded a higher maximum for Turnstone than both the later Cadwallender and TNEI surveys. However, this may well reflect the apparent general decline in numbers across the Northumbria Coast SPA and elsewhere in the UK⁴⁷.

The Cadwallender and TNEI survey methods are not exactly the same as the standard BTO WeBS method, in which counts are undertaken once per month September to March inclusive (summer months are optional), ideally with simultaneous counts of coastal sections comprising an SPA to minimise double-counting or missed birds. They are nevertheless broadly similar, and were undertaken during the same period of the WeBS peak means for the whole SPA. It is therefore not unreasonable to cautiously compare them with the WeBS data for the whole SPA, providing an important estimation of the significance of the local populations of qualifying species. The DBC data, being more *ad hoc*, is less comparable but still important in indicating possible numbers of qualifying species within 6km of SSGA. These comparisons indicate that Purple Sandpipers within 6km of SSGA could represent 2.5% to 3.8% of the SPA population, whilst Turnstones within 6km could represent 1.9% to 3.2% of the SPA population (4.4% against the older DBC data). The surveys indicate that, within 6km of SSGA, the qualifying

⁴⁷WeBS Alerts <http://www.bto.org/volunteer-surveys/webs/publications/webs-alerts>

species mainly if not entirely occur within the designated SPA sections. These percentages are not drastically different to the cautionary comparisons made using the WeBS data alone.

5.4.3 ***Integrity test – Northumbria Coast SPA/Ramsar site***

It may be that current recreational disturbance has not had a significant effect on the populations of Turnstone and Purple Sandpiper in the SPA as a whole, since the BTO WeBS Alerts suggest that the SPA populations have been roughly tracking regional and national population trends. However, this does not preclude significant local effects on distribution within the SPA, particularly when the SPA is extremely large as in this case which could easily camouflage local effects; neither does it preclude possible future adverse effects on the SPA wintering bird populations caused by SSGA.

Where recreational disturbance occurs, the *effect* of it (e.g. reduced foraging or displacement flights) does not necessarily imply *impact* on birds. For example, birds may be able to compensate by subsequent foraging for reduced foraging during disturbance; and displacement elsewhere may have little impact if the energy cost of reaching alternative sites – assuming they are available – does not impact survival⁴⁸. It is difficult to prove that particular disturbance is causing reduced survival and hence adversely affecting populations, but where there is a reasonable likelihood of threat an assessment should err on the side of caution in line with the precautionary principle.

However, it is also a conservation objective that *distributions* of qualifying species be maintained as well as populations. The likely minimum 5.3% increase in visitor pressure as a result of SSGA (demonstrated in section 5.4.1) is likely to represent a significant increase in recreational disturbance of qualifying SPA wintering birds. That recreational disturbance could result from SSGA and may be occurring currently is shown by: a) the evidence in section 5.1.1 for general significance of recreational disturbance on waterbirds and frequent significance of dog-walking; b) the local bird survey observations (section 5.2.2) indicating that dog-walking is likely to be the most important factor locally; c) the visitor survey information indicating that 60% of coastal visitors are dog-walkers; and d) proximity of SSGA. That the local SPA wintering bird populations that could be disturbed are significant is indicated by the analysis in section 5.4.2 of local and SPA bird data, which found that SPA wintering bird populations within the 6km catchment are likely to represent substantially more than 1% of the SPA populations (a threshold commonly used to define bird population significance, e.g. assessment of national and international importance). The effects of causing displacement of a significant quantity of qualifying wintering birds elsewhere could include reduced availability of foraging sites, and potentially reduced carrying capacity of the SPA, and would at least be counter to the conservation objective of maintaining qualifying species distribution. A reduction in SPA wintering bird populations is less likely but possible and would violate the conservation objective of maintaining qualifying species populations. Therefore the SSGA SPD needs to incorporate appropriate mitigation to have confidence that there will not be adverse effects on the integrity of Northumbria Coast SPA/Ramsar site.

5.5 **Effects on qualifying SAC vegetation**

5.5.1 ***Local pressures on SAC vegetation***

The SAC vegetation depends upon natural erosion for its existence, since the sward otherwise tends to thicken up and crowd out the species of note. Continuous erosion of the cliffs, comprising limestone overlaid with boulder clay, causes regular exposure of fresh calcareous substrate for colonisation and ensures, where erosion is sufficient, that vegetation does not

⁴⁸ Gill, J.A., Sutherland, W.J. & Norris, K. (1998). The consequences of human disturbance for estuarine birds. *RSPB Conserv. Rev.* **12**: 67-72.

become entirely dominated by a smaller number of rank grassland species. Thus natural coastal erosion is preferred for nature conservation purposes: along the nearby Hendon to Pincushion section of coast, a policy of natural retreat/realignment is proposed until 2025, and managed realignment thereafter; whilst along the Pincushion to Seaham section a policy of non-intervention is proposed⁴⁹. As a consequence, the cliff-top line in the SAC units within the 6km catchment is not stable, and is gradually moving inland. This is particularly rapid closer to the SSGA, where nutrient enrichment is also an issue for the cliff-top: likely effects from arable run-off on the cliff-top vegetation were noted during SSSI condition assessment⁵⁰. The following points are extracted from the Durham Heritage Coast Conservation Management Plan⁵¹, covering the Hendon-Ryhope section:

- The grassland along the cliff top was described as having low species diversity, and this was at least partly due to agriculture, including re-seeding and subsequent erosion of the cliff into re-seeded land, eutrophication from fertiliser drift and encroachment of arable weeds. Reduction of nutrient input from agricultural land was recommended. Direct management of cliff-top grassland was also considered where safe, but given the rate of cliff edge erosion this was stated as a potentially poor use of resources.
- Cliff retreat by natural erosion was stated as being rapid, with forecast rates for the SAC coast near SSGA (Pincushion to Hendon) being 0.80 to 1.10myr⁻¹. The minimum estimated lifespan for parts of the coastal plateau (prior to requiring intervention to protect roads, railways and built-up areas) was as low as 136 years. Rapid cliff retreat has previously necessitated warning signs along the cliff top path, and is evident from e.g. tension cracks on the cliff-tops and cliff slumping/block failure.
- Cliff-top recession has in some places eroded undisturbed limestone/boulder clay substrate back to the disturbed ground of former landfill sites and quarries which existed in parts of the coastal strip near SSGA, and this will become more frequent.
- The cliffs in SSSI units 14 and 15 are often steep and bare because of the erosion rate, but there are patches of maritime vegetation, often on slumped material below the cliff-tops, which by their nature are generally inaccessible and short-lived.
- The occasional occurrence of off-road motorbiking was reported.

With regard to underlying SSSI units 20 and 23 south of Seaham, the northern parts of which are within the 6km 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. The narrow flat area of mown grassland between the cliff and dismantled railway at the north end of SSSI unit 20, which is included within the SAC, contains magnesian limestone grassland. There is a well-used, permanent and obvious public footpath running alongside this dismantled railway which continues northwards to Noses Point at Seaham (where there is a public car park), and which is part of the Durham Coast Path shown on Ordnance Survey maps. No evidence has been noted of recreational degradation of the flat mown grassland strip (Natural England area officer, pers. comm.).

5.5.2 ***Integrity test – Durham Coast SAC***

In summary, SAC vegetation within the 6km catchment comprises the cliffs and narrow cliff-top strip in SSSI units 14 and 15, and the northern parts of units 20 and 23. At present, poor

⁴⁹Royal Haskoning (2007). *River Tyne to Flamborough Head Shoreline Management Plan 2*. Report to North East Coastal Authorities Group.

⁵⁰ Durham Coast SSSI condition assessment

http://www.sssi.naturalengland.org.uk/Special/sssi/sssi_details.cfm?sssi_id=1000255

⁵¹ Durham Heritage Coast Staff Unit (2005). *Durham Heritage Coast Conservation Management Plan*. Durham Heritage Coast Partnership

quality vegetation is found in the flat cliff-top strip; more diverse vegetation with limestone species occurs on the cliffs in SSSI units 20 and 23, and on small steep exposures in Ryhope Dene. Whilst formerly there appears to have been somewhat more extensive notable cliff-top grassland in SSSI units 14 and 15, the causes of loss appear to be rapid cliff erosion into agriculturally-improved land and former landfill sites, agricultural run-off, and (locally in Ryhope Dene) rank grass/scrub encroachment. Unfavourable condition at SSSI units 20 and 23 results from inhibition of cliff erosion by colliery waste on the beach.

The rapidity of cliff erosion in SSSI units 14 and 15 (0.80 to 1.10myr^{-1}), and large-scale inhibition of cliff erosion in the relevant parts of units 20 and 23, are of such magnitude that cliff-top pressure from walkers or dog-walkers is unlikely to be significant with or without SSGA, particularly with the addition of nutrient and disturbance effects from agriculture and (at SSSI units 14 and 15) erosion of the cliff back into former landfill. Local rank grass/scrub encroachment implies lack of natural and human disturbance, precluding existing recreational pressure and suggesting through inaccessibility of these steep exposures that recreational pressure on them will also remain insignificant with or without SSGA. The flat mown grassland strip at the north end of underlying SSSI unit 20 is potentially vulnerable to degradation from trampling; however, there is no evidence that this is occurring (Natural England area officer, pers. comm.) despite the proximity to Seaham, and it is considered likely that additional visitors from SSGA in this area, which is towards the limit of the 6km catchment, would continue to use the well-used, advertised and signposted existing path system in this area (part of both the Durham Coast Path and England Coast Path). With respect to possible eutrophication from dog faeces, this is also considered unlikely at significant levels given that the Nose's Point public car park is 400m from SSSI unit 20, and both this and other SAC areas within the 6km catchment are more than 400m from SSGA, so that dog defaecation is likely to occur before reaching the SAC (see 5.1.2 above). Thus significant adverse effects on SAC vegetation resulting from recreational walking or dog-walking within the 6km catchment are considered unlikely with or without SSGA.

However, the occasional use of off-road motorised vehicles (such as motor bikes) has been reported (see above), and it cannot be established without incorporating mitigation to prevent it that the large additional population of SSGA near the SAC will not result in additional off-road motorised activity. This is a concern because even occasional activities of this sort can rapidly exacerbate existing natural erosion or create new areas of erosion. Where SAC site fabric at the cliff edges and beyond steep outcrops at the dene mouths is of low quality, the it nevertheless constitutes a hinterland for establishment of qualifying habitat as the cliffs erode back. The powerful abrasion of off-road motorised activity could locally and significantly increase the rate of erosion of the SAC. If this occurred it would be contrary to the conservation objective of maintenance of supporting processes (in this case *natural* erosion into the hinterland) on which the qualifying habitats rely. It also has the potential to restrict local availability of hinterland vegetation into which the qualifying habitat can erode into, which would be against the conservation objective of maintaining extent/distribution of qualifying habitats. Therefore SSGA SPD should incorporate mitigation to discourage this possible adverse effect and monitor the effectiveness of it.

5.6 Incorporated mitigation to avoid adverse effects

The issue of concern for the European sites is visitor pressure from SSGA causing recreational disturbance or degradation. The logical means of preventing this are to divert recreational activity elsewhere to alternative sites with capacity to absorb it, and to put management measures in place to influence behaviour at the protected sites. Therefore, in common with management needing to counteract visitor pressure on European sites elsewhere in the UK, incorporated mitigation for SSGA will comprise a suite of measures of two main types:

- Provision of Alternative Greenspace, to be known as South Sunderland Areas of Additional Natural Greenspace (SSAANG);
- Strategic Access Management and Monitoring (SAMM).

Additionally, bespoke mitigation is proposed for South Ryhope LMD because of its greater proximity to the European sites, and because SSAANG is not feasible in this LMD.

The purpose of SSAANG is to displace visitor pressure from protected sites to the SSAANG, which must therefore be located and designed for the particular recreational activities it needs to cater for. SAMM provides mitigation measures to inform and involve local communities, and to directly discourage undesired recreational activities at the European sites. In developing the complete mitigation scheme below, the whole SSGA was considered comprehensively, before determining how the mitigation costs should be delivered and split amongst the component development sites.

5.6.1 **SSAANG – likelihood of effectiveness**

The coastal visitor survey undertaken for County Durham Plan HRA⁵², which closely approached SSGA and included respondents from Sunderland, found that 60% of respondents were dog-walkers, and of these 45% and 36% used alternate greenspace more often or just as often as the coast respectively. This suggests that the South Sunderland Areas of Additional Natural Greenspace (SSAANG) could significantly reduce dog-walking at the coast in 81% of cases.

Other visitor studies from elsewhere in the UK have similarly found that high proportions of visitors have dogs and support similar travelling distances, in addition to the local visitor survey and Solent disturbance study mentioned in section 4.2 regarding the 6km visitor pressure catchment. These other studies include the following, which have been used to inform successful SSAANG provision elsewhere:

- The Whitehill & Bordon Eco-town⁵³ visitor survey found that 71% of visitors had dogs and mostly came from within 4.3km.
- Visitor surveys by Liley *et al* for Thames Basin Heaths SPA⁵⁴ found that 59% of visitors were dog-walkers, and 70% came from within 5km.
- Visitor surveys by Clarke *et al* for Dorset Heathlands⁵⁵ (which includes an SPA and SAC) found that 80% of visitors were dog-walkers, and 75% came from within 5km.

Recent guidance on alternative natural greenspace (eg SSAANG) by Hampshire County Council⁵⁶, which has been working in partnership with the Kennel Club, reports that dog-owners travel on average 400-500m to reach greenspace for dog-walking, and Natural England SANG (Suitable Alternative Natural Greenspace) guidance employed during HRA of Thames Basin Heaths Planning Zone and elsewhere recommended that SANG sites intended for local use should be within 400m of the linked developments. Natural England also

⁵²Bluegrass Research (2013). *Durham Heritage Coast Coastal Visitor Survey 2012/2013*. Report to Durham County Council.

⁵³Ecological Planning & Research Ltd (2013). *Whitehill & Bordon Eco-town Visitor Survey Report*. Report to East Hampshire District Council.

⁵⁴Liley, D., Jackson, D., & Underhill-Day, J. (2005). *Visitor Access Patterns on the Thames Basin Heaths*. English Nature Research Report 682. Natural England, Peterborough.

⁵⁵Clarke, R., Liley, D., Underhill-Day, J. & Rose, R. (2005). *Visitor access patterns on the Dorset heathlands*. English Nature Research Report 683. Natural England, Peterborough.

⁵⁶Hampshire County Council (2013). *Planning for Dog Ownership in New Developments: Reducing Conflict – Adding Value*. Hampshire County Council.

recommends a 400m buffer from European sites within which development should be limited; however, there is reported to be no clear cut-off at 400m and this distance was chosen as a pragmatic measure to significantly reduce impacts on European sites⁵⁷. Given also that the visitor survey for Durham County Plan HRA found that 59% of respondents living within 400m of the European sites were 'high risk' because they visited the coast up to three times per day, it is likely that residents beyond the 400m zone in the South Ryhope LMD would also include a proportion of 'high risk' people.

Taken together, the above points suggest that if sufficient SSAANG and/or other measures associated with dog-walking is not supplied for SSGA then recreational disturbance from dog-walking in the European sites would increase substantially, most likely by at least 5.3% and probably more (see section 5.4.1). It has been demonstrated above (section 5.4.3) that this would likely compromise European site integrity. It is therefore necessary that SSAANG addresses in particular disturbance from local dog-walking. That this is likely to be successful is suggested by success elsewhere (e.g. at Thames Basin Heaths), and by the visitor survey which indicated that dog-walking could be reduced significantly by SSAANG.

5.6.2 **SSAANG – required SSAANG area**

A measure of the minimum SSAANG area that might be required for SSGA can be derived from a simple assessment of the existing coastal recreation area within the 6km visitor pressure catchment. The existing coastal recreation area used for this purpose is shown in Figure 4 (see Appendix 2); it includes all relevant sections of the European sites, all intervening and extending coastal strips down to low tide viable for recreation up to the 6km limit, and all apparent rough grassland inland of the cliff-tops which is or could be used by dog-walkers up to the first change of land use or break in accessibility (such as a road). This precautionary coastal recreation area is very similar to the relevant parts of the 'approved coastal margin' defined for the England Coast Path⁵⁸ (which came into force in this section on 11th April 2014), and amounts to 184ha.

On the basis that the above population comparison suggests that the SSGA population would cause at least 5.3% additional visitor pressure, this suggests that a minimum of 9.8ha SSAANG might absorb it. There are several reasons, however, why SSAANG provision must be significantly larger:

- It is acknowledged that in this instance SSAANG cannot replicate the conditions of the area from which visitors are to be drawn away, since it cannot replicate the coastal landscape that often draws visitors in the first place, and this decreases its effectiveness.
- Additionally, and as already stated, the SSGA population would be likely (without mitigation) to increase visitor pressure by more than 5.3% because of its proximity to the European sites compared to much of the 6km visitor pressure catchment.
- Another issue is that desire lines⁵⁹ in some proposed SSAANG areas indicate current usage. The most obvious current usage is in the proposed SSAANG in the 'Land North of Burdon Land' LMD and Chapelgarth (the northern parts, comprising rough grassland with blocks of young plantation). Since desire lines here are green and narrow, and not eroded to earth, and also because the existing land (in common with the other SSAANG areas) is not designed as SSAANG or other amenity ground (with

⁵⁷ Liley, D., Clarke, R., Tyldesley, D., Underhill-Day, J. & Lowen, J. (2006). *Evidence to support Appropriate Assessment of development plans and projects in south-east Dorset*. Report to Dorset County Council.

⁵⁸ <https://www.gov.uk/government/publications/england-coast-path-route-north-gare-to-south-bents>

⁵⁹ Desire lines are unofficial paths, usually rough through vegetation, formed by repeated trampling.

no official paths, parking, gateways, signs or other features) current usage is considered low/ medium, but this still slightly reduces its capacity.

Nevertheless, SSAANG is critical in drawing visitor pressure (in particular dog-walking), away from the coast, and is expected to do so as long as it is appropriately designed (see subsequent sections below). SSAANG provision will be at the Natural England recommended rate of 8ha per 1000 population for Chapelgarth, Land North of Burdon Lane and Cherry Knowle, which amounts to 43ha. Combined with the capacity to substantially enhance those proposed SSAANG areas already subject to low /medium-level use, and proposed connections to green links and other green space, this is anticipated to significantly counteract the above issues. It must however be noted that the Durham Heritage Coast Visitor Survey found that the coast was used by dog owners more often than green space in 19% of cases and just as often in 35% of cases, so it is therefore essential that a) the SSAANG provision of 43ha is fully implemented along with related green links and other green infrastructure, and b) that access management measures are also implemented (see section 5.6.7).

5.6.3 **SSAANG – proposed layout**

Figure 3 (see Appendix 2) illustrates the locations of proposed SSAANG and other green infrastructure including new or upgraded green links. Please note that this figure is indicative: whilst the area of SSAANG provision will not be less than stated below, the exact shape and positioning of SSAANG, and the precise location of new green links, will be optimised and subject to minor alteration during the planning of each SSGA development.

The three largest LMDs (Chapelgarth, Land North of Burdon Lane and Cherry Knowle), will provide SSAANG at the rate of 8ha per 1000 population (this accords with Natural England SANG provision guidance). The South Ryhope LMD and the other smaller housing developments in SSGA are of insufficient size to contain effective SSAANG, and will therefore primarily contribute to the access management measures (detailed in section 5.6.2, and including bespoke boundary treatment for South Ryhope). Additionally, the Silksworth Lane development will be required to maintain the green corridor that passes through that area.

The Chapelgarth, Land North of Burdon Lane and Cherry Knowle LMDs will support estimated populations of 1476, 2168 and 1748 respectively, and will therefore be required to supply 11.8ha, 17.3ha and 14.0ha respectively, giving a combined SSAANG provision of 43.1ha. It should be noted that SSAANG provision does not include normal amenity provision. SSAANG provision is to be maintained in perpetuity (case law suggests a minimum of 75 years).

5.6.4 **SSAANG – current land use**

The two proposed SSAANGs in the Chapelgarth LMD comprise sown grass/set-aside, arable and planted woodland, the latter particularly in the eastern block which contains a substantial broadleaved plantation strip within it. The western SSAANG of sown grass has broadleaved plantation around much of the periphery and as a small interior clump.

A large portion of proposed SSAANG in the 'North of Burdon Lane' LMD is currently rough grassland, some with young plantations, and smaller areas of arable and sown grass. The rough grassland is in places accessed by the public with obvious desire lines.

The proposed SSAANG land in the Cherry Knowle LMD is rough grassland with sparse scattered scrub. The site is fenced off, with only a few possible faint desire lines, and current public use appears to be very low.

5.6.5 **SSAANG – distance from users and green links**

Much of the SSGA population would be within 400-500m of the proposed SSAANGs. This is appropriate since it agrees with advice from the Kennel Club reported by Hampshire County Council⁶⁰ on typical distance walked by dog-owners to dog-walking areas, and is similar to Natural England advice given for mitigation at other European sites. However, small parts of Land at Burdon Lane, Land North of Burdon Lane and Cherry Knowle, and the entirety of South Ryhope, are beyond this distance, emphasising that the SSAANG area should not be reduced and that green links and access management measures (see section 5.6.2) are also critical.

Given the evidence in section 5.3.1 that dogs generally defecate within 400m of starting a walk, the proposed SSAANGs and green links should not result in significant increased eutrophication of the European sites from this source by dog-owners walking further on to the coast. This is because if dog-walkers wished to walk further to the coast, they would need to walk more than 400m.

The individual proposed SSAANG patches within the SSGA developments are between 4.5ha and 9.3ha with the exception of that at Land North of Burdon Lane which is 17.2ha. Excluding the latter, each SSAANG patch could (if appropriately designed) draw some users from up to 2km away according to guidance for Thames Basin Heaths SPA⁶¹. This is appropriate since no part of SSGA is beyond 2km from the SSAANG sites, although it does not negate the above point that the majority of dog-walkers walk 400-500m to reach green space for dog-walking.

The SSAANGs in 'Land North of Burdon Lane' and 'Cherry Knowle' are adjacent or in close proximity and therefore could be regarded as a single entity amounting to around 31ha. This size of SSAANG might draw some users from up to 5km, according to the same guidance. As such, this SSAANG provision may have the potential to also alleviate some of the existing visitor pressure on the European sites, but this would be an incidental benefit that neither can be guaranteed nor represents the objective of the SSAANG and other mitigation, whose purpose is to provide sufficient confidence that there will be no adverse effects from SSGA on the integrity of European sites. Any reduction in the proposed area of SSAANG (or other mitigation) would be liable to eliminate this confidence.

Provision of SSAANG within the South Ryhope LMD is not considered feasible due to its smaller size and close proximity to the coast such that any SSAANG at South Ryhope could draw dog walkers from elsewhere in SSGA towards the coast. To provide alternative dog-walking options it is critical that linkages to the upgraded Route 1 Mineral Line green link and the green link connecting to Cherry Knowle SSAANG are provided. Dog-walkers at South Ryhope will then be able to very quickly access long-distance green links, linking to Cherry Knowle over a distance of approximately 1.5km. For comparison, distances to the coast at the bottom of Ryhope Dene and Village Dene are a minimum of 1.3km. However, to reach Ryhope Dene via the shortest north-east route (since access will be prevented directly southwards towards the dene by the proposed strong boundary treatment – see section 5.6.2) would involve walking along busy main roads and under a railway bridge with no footpath, whilst access to Village Dene involves an uninviting narrow underpass beneath the main road. Additionally, there is no official parking at either dene and little space for unofficial parking, and it is proposed that no improvements to access will be undertaken in these locations (see section 5.6.2). Given also that Thames Basin Heaths guidance indicates that typical dog walk

⁶⁰Hampshire County Council (2013). *Planning for Dog Ownership in New Developments: Reducing Conflict – Adding Value*. Hampshire County Council.

⁶¹Royal Borough of Windsor & Maidenhead (2010). *Thames Basin Heaths Special Protection Area Supplementary Planning Document (Part 1)*. Royal Borough of Windsor & Maidenhead

length is up to 2.5km, it is anticipated that most dog-walkers from South Ryhope will use the adjacent green links and, once access to the Dene is restricted, few will venture as far as the coast.

Since SSAANG at SSGA is particularly intended to attract dog-walkers, it is important that it is large enough to allow circular walks of sufficient distance. The Thames Basin Heaths SANG guidance recommended 2.3-2.5km and, although a road would need to be crossed at least once, this would be possible using a combination of the larger adjacent SSAANGs in Cherry Knowle and Land North of Burdon Lane. Additionally, the intended provision of additional green infrastructure in the settlement break in the northern parts of the Land North of Burdon Lane LMD, the provision of green links between and to SSAANGs and other greenspace, the upgrading of the Route 1 Mineral Line green link, and existence or provision of other paths provides further options for more extensive walking routes.

5.6.6 **SSAANG – suitability of design**

The effectiveness of SSAANG depends on it being *suitable* as well as accessible. Suitability for dog-walkers is the greatest concern in this instance. SSAANG provision will therefore follow, to the extent applicable and feasible in this case, SANG guidance issued by Natural England for mitigation of adverse effects on other SPAs such as Thames Basin Heaths⁶², where dog-walking was a significant issue. The following points also make use of recent guidance on greenspace provision for dog-walking established by Hampshire County Council⁶³.

- The majority of people using the SSAANGs are intended to be from the SSGA, with inevitable additional use by existing adjacent residential areas. However, some parts of the SSGA will exceed the distance from housing to SSAANG recommended for dog-walkers, particularly in the case of South Ryhope, and despite proposed green links it is likely that some people will wish to drive to the SSAANG. Therefore a moderate amount of safely accessible and clearly sign-posted car parking will be made available at the large SSAANGs in Cherry Knowle and/or Land North of Burdon Lane.
- Any car parks will be set back from connecting roads to avoid traffic accidents with dogs, and will have a largely open setting for safety but include some adjacent tree planting to give summer shade. Those SSAANGs with car parking will have circular walks starting and ending at the car park. Car parking will be free to avoid encouraging users to go elsewhere such as the coast, unless too many off visitors use the facility, in which case a parking duration limit will be employed in the first instance.
- SSAANGs will allow dogs off-lead. Peripheral open fencing of minimum 1.2m height and suitable for restraining dogs will be erected, to prevent dogs running into roads.
- Paths in SSAANGs will comprise a combination of made paths suitable for all weathers and short grass paths to provide a naturalistic feel. Paths will be set in a largely open environment and some routes will be lit, to provide a perception of safety for dog-walkers at all times including at dawn, dusk and during winter darkness.
- SSAANGs will be primarily open in nature for perceptual safety, but some areas of trees and shrubs will also be provided to give choice and naturalistic perception. To further promote a natural feel, grass areas will include both shortly-mown and longer grass areas, and artificial structures will be avoided except at entry points / car parks.

⁶² As given, for example, in: Royal Borough of Windsor & Maidenhead (2010). *Thames Basin Heaths Special Protection Area Supplementary Planning Document (Part 1)*. Royal Borough of Windsor & Maidenhead

⁶³ Hampshire County Council (2013). *Planning for Dog Ownership in New Developments: Reducing Conflict – Adding Value*. Hampshire County Council.

On some SSAANGs, where feasible and in liaison with the Environment Agency, water features accessible to dogs will also be provided. Provision of at least one water feature is especially important since some users will otherwise use the coast to allow their dogs to swim.

- SSAANGs will not incorporate other uses incompatible with dog-walking (such as sports pitches) since the primary intention is to attract dog-walkers away from the coast.
- Clear welcoming signage will be provided indicating dog-friendly purpose, in particular showing where dogs are allowed off-lead and the layout of the SSAANGs/green links, and routes within, to and from them. The presence of dog-friendly greenspace will be advertised through various means including via website(s) and provision of leaflets to new houses.

SSAANG provision will be supplemented by general green infrastructure (GI) and access improvements, to further encourage use of the SSAANG and other GI by dog-walkers and other recreational users. These are described in the following section.

5.6.7 ***Strategic Access Management & Monitoring (SAMM)***

Access management will comprise a wide-ranging set of measures at the European sites and other measures at the SSGA itself, including additional bespoke mitigation for South Ryhope since it is the closest LMD to the European sites with existing easy access to Ryhope Dene and thence the coast. SAMM measures are to be continued in perpetuity.

SAMM mitigation at the European sites

- Public Space Protections Orders/By-laws will be used to a) provide dog-leash restrictions in Northumbria Coast SPA within the 6km visitor catchment in the period September to April, and b) restrict use of quad bikes/motor bikes etc. and shooting. Fines will be enforced where necessary. If monitoring shows that dog-leash restrictions are not sufficient then dog bans will be introduced instead.
- A Coastal Ranger/Dog Warden will be appointed to monitor the European sites and enforce the above Orders/By-laws, manage publications/walking routes, educate the local community and organise volunteers/events.
- Use of alternative coastal locations, particularly cliff-tops rather than the beach, will be promoted by a) continuing to limit promotion of and access to Ryhope Dene, Village Dene and Salterfen Lane, b) encouraging access to the cliff-top England Coast Path rather the shore, with interpretation panels (including explanation of the shore's importance for wintering birds) and benches on the cliff tops⁶⁴, and c) upgrading access outside the European sites at north Hendon.
- Implementation of 'Beach Watch' including 'Friends of the Coast'. This is an existing council project to be implemented in 2014/15 involving volunteers, police and SCC Responsive Local Services. Volunteers will be trained to lead walks, promote responsible walking and police irresponsible behaviour.
- Installation of 8 information panels along the coast between Hendon and Ryhope Dene to raise awareness of the existence of the European sites, the qualifying features and expected visitor behaviour. This is an existing council project

SAMM mitigation at the SSGA

⁶⁴The recent opening of the England Coastal Path in this area is considered likely to be helpful, providing a mapped path with clear signage.

- The green link represented by the Route 1 Mineral Line, a dismantled railway, will be upgraded to an adoptable standard;
- A green link will be provided from the Cherry Knowle SSAANG to the Route 1 Mineral Line green link.
- A green link will be provided from the 'Land North of Burdon Lane' SSAANG to the Chapelgarth SSAANG, including pedestrianisation of parts of Burdon Lane.
- The path through Blackney Woods LWS⁶⁵ in Chapelgarth will be upgraded and lit, and informal paths rationalised.
- A green link will be provided through the Silksworth Lane development to maintain the existing corridor.
- Improvements to National Cycle Network Route 1 will be made as and when necessary.
- 12 information panels will be installed within SSAANGs and along green links, to raise awareness and provide details of walking routes.

In the northern part of Land North of Burdon Lane, sections of the existing settlement break will, as part of the development, be maintained and upgraded to provide social and amenity facilities such as sports pitches and play areas, with footpaths connecting to green links and SSAANG. This is shown as 'other greenspace to be provided for SSGA' in Figure 3 (see Appendix 2). Although this area will not be designed for letting dogs off-lead (with incompatible amenity uses) and cannot for these purposes constitute SSAANG, footpaths through this large greenspace that adjoins SSAANG will also provide additional connections and alternative green walking routes for dog-walkers.

Bespoke SAMM mitigation for South Ryhope

Given South Ryhope's proximity to the European sites (420m away at the closest point) and the existing informal access from the present fields at South Ryhope to Ryhope Dene providing direct access to the coast, it is necessary to ensure that such direct access from the proposed housing at South Ryhope (and the Route 1 Mineral Line green link) is avoided to effectively reduce recreational disturbance at the coast.

To prevent such access to Ryhope Dene, a strong boundary along the south edge of the South Ryhope LMD will be constructed. The boundary will comprise a water-filled ditch with a raised earth bund beyond topped with dense hedging. The hedging will comprise native blackthorn *Prunus spinosa*, which will form a dense, thorny and impenetrable barrier, and in time is likely to sucker outwards and become thicker⁶⁶ thus further increasing barrier effectiveness.

5.6.8 ***Monitoring and follow-on mitigation***

Monitoring alone is not mitigation. However, in combination with a set of additional follow-on mitigation measures it can allow a Competent Authority to authorise a project as long as the monitoring and follow-on measures: a) alert the Competent Authority, *before* there are adverse effects on site integrity, that site integrity may suffer if nothing is done; and b) trigger implementation of follow-on measures, or review of which follow-on measures should be taken

⁶⁵Local Wildlife Site.

⁶⁶Also a good general biodiversity enhancement, providing excellent breeding bird and invertebrate habitat.

prior to their implementation⁶⁷. The proposed monitoring will also provide evidence to support review of the SSGA SPD.

- Monitoring will be undertaken within the 6km visitor pressure catchment of the qualifying features of the European sites and pressures on them, specifically: surveys of SPA wintering birds and SAC vegetation, and surveys of recreational disturbance of SPA wintering birds and visitor pressure on SAC vegetation.
- Surveys will also be undertaken of SSAANG usage, to judge whether improvements are necessary or improved publicity of their dog-friendly nature.
- Follow-on mitigation, to be implemented following review and agreement with Natural England if and where monitoring surveys or wardening demonstrates that it may be required, will include any of:
 - implementation of spatial access restrictions through e.g. signage, fencing, wardening as appropriate;
 - implementation of dog bans rather than dog-leash restrictions in specified areas of the European sites.

5.7 Mitigation delivery

5.7.1 *Costs and implementation*

The following table provides details of the estimated costs, timings and implementation of the proposed mitigation.

The proposed mitigation measures are considered to support those being implemented in County Durham by Heritage Coast.

[see next page]

⁶⁷Tyldesley, D. & Chapman, C. (2013). *The Habitats Regulations Assessment Handbook*. June 2014 edition. DTA Publications Limited.

Table 5 Mitigation delivery. Within each group, mitigation is roughly ranked with higher priorities towards the top.

Proposal	Activity	Frequency	Time Frame	Estimated Costs*	Partners**	Implementation**
<i>SCC- existing planned mitigation measures to be implemented by SCC with no cost to developers</i>						
Promote use of alternative beach locations / cliff tops and discourage access to European sites.	North Hendon improvements. Currently low grade pedestrian access. Install visitor signs, improve appearance of tunnel / approach and accessibility, since not in European sites. Install information panels and benches etc.; encourage use of cliff-top England Coast Path.	N/A	Short Term due to be implemented 2014/15	No cost to developers, to be implemented as part of a council project	Network Rail	SCC, Network Rail
	Cliff-top improvements only at Toll Bar / Salterfen. No improvements to beach access (already limited by cliff retreat). Promote cliff tops and England Coast Path rather than beach. Install interpretation panels and benches on the cliff tops.	N/A	Short Term due to be implemented 2014/15	No cost to developers, to be implemented as part of a council project	N/A	SCC- Rights of Way Officer
	Cliff-top improvements only at Village Dene / Beach Road. No improvements to beach access. Access management to dene. Promote cliff tops and England Coast Path rather than beach. Install interpretation panels and benches on cliff tops.	N/A	Short Term due to be implemented 2014/15	No cost to developers, to be implemented as part of a council project	N/A	SCC- Rights of Way Officer
	Already limited access and no formal parking at Ryhope Dene: continue to limit site promotion and access (cannot block since provides emergency beach exit).	N/A	N/A	No cost	NE, ChC, SCC	SCC
Raise awareness at the coast of the European sites.	Install 8 information panels along the coast between Hendon and Ryhope Denemouth, to increase awareness of purpose and value of the European sites, provide information on qualifying features, and critically to explain expected visitor behaviour.	Installed as a priority	To be implemented 2014/15	No cost to developers for design and implementation. Installed as part of a council project. Maintenance to be funded by council.	Durham Heritage Coast, Public Rights of Way Officer	SCC- Scrutiny
Beach Watch including 'Friends of	Volunteers/ Police/ SCC Responsive Local Services will be policing the area.	N/A	Short Term due to be implemented	No cost to developers, to be implemented as part of a	N/A	SCC

Proposal	Activity	Frequency	Time Frame	Estimated Costs*	Partners**	Implementation**
the Coast'	Volunteers to be trained as walk leaders, promote responsible walking and police irresponsible behaviour.		2014/15	council project		
<i>SSGA- Strategic Access Management</i>						
Restrict activities that are highly disturbing to SPA wintering birds.	Public Space Protection Order – Restriction to keep dogs on lead September-April in relevant SPA sections. Fines to be enforced if Coastal Ranger (see below) deems necessary.	Must be reviewed every 3 years, but will be re-instated on each review so continuous in perpetuity (case law suggests 75yr).	Prior to residential developments being inhabited, to avoid bad habits forming.	Initial implementation costs approximately £3,000. Reduced costs for reinstatement at required 3-yearly review. Approximate cost £40,500 in total. Enforcement costs covered by appointment of Coastal Ranger	SCC	SCC- RLS/ Natural Heritage/ Planning Implementation/ Coastal Ranger
	By-laws to restrict quad bikes/motor bikes/motorised planes and shooting. Restrictions already in place except for motorised planes; strengthen through by-law and officer to enforce.	Must be reviewed every 3 years, but will be re-instated on each review so continuous in perpetuity (case law suggests 75yr).	Prior to residential developments being inhabited, to avoid bad habits forming.	Initial implementation costs approximately £3,000. Reduced costs for reinstatement at required 3-yearly review. Approximate cost £40,500 in total. Enforcement costs covered by appointment of Coastal Ranger	SCC	SCC- RLS/ Natural Heritage/ Planning Implementation/ Coastal Ranger
Appoint coastal ranger/dog warden to raise awareness and provide support programme in local and wider community.	Organise events	Permanent full time post	Short/ Medium Term	£F, G J per annum (including on costs at current costs) + budget for officer £20,000 per annum = £I F, G J per annum (presumption of 20 years after which time the volunteer groups should be in place)= £%\$&), % \$	SCC, Developers at SSGA, local schools and community groups, NE	SCC
	Organise publications & walking routes					
	Oversee information panels					
	Organise volunteer service					
	Educate local community					
	Wardening of European sites					
	Enforce Public Space Protection Order/By-					

Proposal	Activity	Frequency	Time Frame	Estimated Costs*	Partners**	Implementation**
	law (see above)					
<i>SSGA- SSAANG and other green infrastructure</i>						
Provide large areas of South Sunderland Areas of Additional Natural Greenspace (SSAANG), connected to other green infrastructure, to draw dog-walkers in particular away from the coast.	8ha SSAANG per 1000 population to be provided in Chapelgarth, Land North of Burdon Lane and Cherry Knowle. To remain in perpetuity. Appropriately designed for dog-walkers in particular, allowing dogs off-lead, providing circular walks and following Natural England SANG guidance (see above report text). Land North of Burdon Lane SSAANG to be connected via footpaths to adjacent green infrastructure further north (where amenities such as playing fields are to be installed).	N/A	In advance of residential development being inhabited.	Developer to implement in Chapelgarth, Land North of Burdon Lane and Cherry Knowle. Council preference is for council to adopt the SSAANG with developer providing commuted sum for its maintenance for 20 years (estimated to be approximately £2147 ⁶⁸ per dwelling) after which the council will maintain it in perpetuity.	Developers at SSGA, SCC	SCC
Green infrastructure (GI) improvements	Route 1 Mineral Line improvements. This dismantled railway will be upgraded and built to an adoptable standard.	N/A	Implemented as part of planning applications	Developer to implement	Developers at SSGA	Developers at SSGA, SCC
	New green link provision. Provision of green link from Cherry Knowle SSAANG to Route 1 Mineral Line green link.	N/A	Implemented as part of planning applications	Developer to implement	Developers at SSGA	Developers at SSGA, SCC
	New green link provision. Provision of green link from Land North of Burdon Lane to Chapelgarth (partly via Land at Burdon Lane) and pedestrianisation of parts of Burdon Lane.	N/A	Implemented as part of planning applications	Developer to implement	Developers at SSGA	Developers at SSGA, SCC
	New green link provision. Provision of green link through Silksworth Lane to maintain existing green corridor.	N/A	Implemented as part of planning applications	Developer to implement	Developers at SSGA	Developers at SSGA, SCC
	Chapelgarth improvements. Upgrading of existing Blackney Woods path and	N/A	Short/ Medium Term	Estimated costs £252,000 . Fees included	N/A	SCC

⁶⁸ Calculated as follows: (amount of SSAANG in ha @ 8ha per 1000 population) x (£5912 maintenance per ha per year) x (20 years) / (no. dwellings)

Proposal	Activity	Frequency	Time Frame	Estimated Costs*	Partners**	Implementation**
	inclusion of lighting. Rationalisation of other informal paths.					
	National Cycle Network Route 1 improvements. Link already in place – provide any improvements that maybe necessary.	As and when required.	As and when required.	N/A	Sustrans	Sustrans
Raise awareness of SSAANG / GI	Installation and maintenance of 12 information panels in SSAANGs and along GI corridors, explaining layout of SSAANG / GI, walking routes, dog-friendly purpose and where dogs are allowed off-lead.	N/A	In advance of residential development being inhabited.	Developers to Implement 7 panels within SSAANGs, 5 to implemented outside of SSAANGs (£2150 per panel + £1000 maintenance = £15,750)	N/A	SCC
	Publicity of dog-friendly SSAANG through website(s), provision of leaflets to new houses, and coastal ranger (see above for latter).	Website information on-going; leaflets provided to new residents.	Website information in advance of residential development being inhabited; leaflets when new residents move in.	Costs covered above (coastal rangers budget)	N/A	SCC
<i>SSGA- Bespoke additional access mitigation at South Ryhope LMD</i>						
Rationalisation of access to European sites via Ryhope Dene Mouth (LWS).	Access Management into the Dene Mouth	NA	In advance of residential development being inhabited.	Developer/ Landowner to implement	Developers at SSGA, SCC, ChC	ChC and SCC Rights of Way officer
Rationalisation of access to European sites via Ryhope Dene (LWS).	Strong boundary treatment along southern edge of the LMD: a wet ditch, followed by bund with 'established' blackthorn hedges planted.	N/A	In advance of residential development being inhabited.	Developer to implement	Developers at SSGA, SCC, ChC	Developers at S. Ryhope, SCC
<i>SSGA- Monitoring and follow-on mitigation</i>						
Monitor the nature conservation interest of the	Undertake surveys of SPA wintering birds and food sources within 6km catchment	9 surveys in first 20 years, once every 5	First winter (for SPA wintering birds) or summer	£10,000 per survey, total of £140,000 required	NE, DCC, RSPB, Durham Heritage Coast	SCC- project manage, procure and appoint
	Undertake surveys of recreational					

Proposal	Activity	Frequency	Time Frame	Estimated Costs*	Partners**	Implementation**
European sites, to trigger follow-on mitigation if necessary	disturbance on SPA wintering birds	years for the subsequent 20 years starting on year 20.	(for SAC vegetation) prior to occupation of SSGA and then as described to left.	£7,000 per survey, total of £98,000 required		consultants to undertake these works/ surveys
	Undertake condition assessment of SAC vegetation within 6km catchment					
	Undertake survey of visitor pressure on SAC vegetation within 6km catchment					
Visitor surveys	Survey SSAANG users and coastal surveys; improve publicity and make alterations if deemed necessary.	9 surveys in first 20 years, once every 5 years for the subsequent 20 years starting on year 20.	When SSAANG completed and as described to left.	£3000 per survey, equal to £42,000	N/A	SCC
Further restrictions on activities disturbing to SPA wintering birds (if monitoring indicates required)	Upgrade Public Space Protection Order from dog-leash restriction to dog bans, in winter if, when and where monitoring indicates necessary. Fines to be enforced.	As for dog-leash restrictions above.	If and when triggered by survey monitoring or coastal ranger.	This measure incurs no additional cost because it only requires adjustment to the existing dog-leash restrictions (see above).	N/A	SCC- Responsive Local Services / Natural Heritage/ Planning Implementation/ Coastal Ranger
Access restrictions to European sites (if monitoring indicates required)	Implement full access restrictions (signage, fencing, monitoring as appropriate) to sensitive areas of European sites if, when and where monitoring indicates necessary.	On-going or temporary in accordance with monitoring and subject to review	If and when triggered by survey monitoring or coastal ranger.	Approximate costs £20,000	NE, DCC, Durham Heritage Coast, Sunderland Coastal Strategy	SCC- Natural Heritage Team and Responsive Local Services in short term until a warden is employed.
SSGA- Administration						
Keep NE and SCC (as the competent authority) informed of the success of mitigation measures	Reports to NE, reporting on the success of mitigation measures	To align with the time frames on monitoring	N/A	See below	N/A	SCC
Provide resources for SCC to administer/	Fund SCC officer support time, to administer/ implement/ oversee/ monitor	On going	N/A	5% of the above total costs (£78,986)	N/A	SCC

Proposal	Activity	Frequency	Time Frame	Estimated Costs*	Partners**	Implementation**
implement many of the above measures	mitigation measures and warden.					
TOTAL				£1,+) +, * & ") \$		

* Costs are estimated 2014/15 costs. Future costs will be adjusted as necessary including allowance for Construction Price Index uplift.

** NE = Natural England; DCC = Durham County Council; SCC = Sunderland City Council; ChC = Church Commissioners.

5.7.2 **Funding**

With the exceptions noted in Table 5 above where a measure is part of an existing SCC project and incurs no additional cost, and also in one instance where Sustrans would be responsible for any necessary cycle network improvements, funding for mitigation will be secured as follows.

Ideally, the costs of implementation and maintenance of SSAANGs and SAMP would be split proportionately amongst the developments and financial contributions sought from each for both. The situation is more complicated, however, because some developments are large enough to provide SSAANG and others are not. The costs have therefore been split as fairly as possible with large developments providing SSAANGs and those of insufficient size to do so contributing to SAMP.

Funding for SAMP

Funding for Strategic Access Management and Monitoring will be obtained by securing S106 contributions from developers at the small housing developments in the SSGA which are too small to provide significant SSAANG within them, and (since it is in closest proximity to the European sites and capable of producing the largest adverse effects if unmitigated) from the South Ryhope LMD. The sums required to meet the above total of £1,658,696 are shown in the table below.

Table 6 Contributions for Strategic Access Management and Monitoring.

Development	No. dwellings	Total contribution	Contribution per dwelling
South Ryhope LMD	450	£811,800	£1,804
Land at Silksworth Lane	160	£288,640	£1,804
Land at Burdon Lane	114	£205,656	£1,804
Land to the rear of Bevan Ave.	150	£270,600	£1,804
Windfall sites close to SSGA	100	£180,400	£1,804
Total	974	£1,757,626	-

Funding for SSAANG maintenance

The costs of providing SSAANG, green links and other green infrastructure is to be met by developers. However, there will be an on-going maintenance cost for the SSAANG once provided. SCC preference is for a commuted sum to be paid by each developer to SCC to cover future SSAANG maintenance for 20 years, after which SCC will maintain the SSAANG in perpetuity. Maintenance costs are estimated at £5,912 per hectare per year. The proposed SSAANG area is 43.1ha, located in the LMDs of Chapelgarth, Land North of Burdon Lane and Cherry Knowle. At £5,912 per hectare for 20 years, the total maintenance sum required for this SSAANG is £5,099,691. Since the number of dwellings in these LMDs is 2,375, the SSAANG maintenance cost is £2,147 per dwelling in Chapelgarth, Land North of Burdon Lane and Cherry Knowle.

Summary of mitigation and combined contributions for each development

The following table summarises the types of mitigation required for each SSGA development area, and the combined contributions for both SSAANG maintenance and Strategic Access Management and Monitoring. Note, as explained above, that the cost of actual SSAANG, green link and other green infrastructure provision is to be separately met by the developers.

Table 7 Summarised mitigation and combined contributions for each SSGA development area

Development	Type(s) of mitigation required	Combined contributions for SSAANG maintenance or Strategic Access Management and Monitoring	
		Per development	Per dwelling
Chapelgarth LMD	SSAANG provision. Contribution for SSAANG maintenance. Connections to other SSAANG / GI.	£1,395,705	£2,147
Land North of Burdon Lane LMD	SSAANG provision. Contribution for SSAANG maintenance. Connections to other SSAANG / GI including green link to Chapelgarth.	£2,050,613	£2,147
Cherry Knowle LMD	SSAANG provision. Contribution for SSAANG maintenance. Connections to other SSAANG / GI including green link between SSAANG and Route 1 Mineral Line green link.	£1,653,374	£2,147
South Ryhope LMD	Contribution to strategic access management measures/monitoring. Connections to other SSAANG / GI. Boundary works (described in section 5.6.2) to prevent direct access to Ryhope Dene.	£811,800	£1,804
Land at Silksworth Lane	Contribution to strategic access management measures/monitoring. Green link to maintain the corridor in this area. Connections to SSAANG / GI.	£288,640	£1,804
Land at Burdon Lane	Contribution to strategic access management measures/monitoring. Connections to SSAANG / GI including green link between Chapelgarth and Land North of Burdon Lane.	£205,656	£1,804
Land at Rushford Phase 2	Contribution to strategic access management measures/monitoring. Connections to SSAANG / GI.	£270,600	£1,804
Windfall sites close to SSGA	Contribution to strategic access management measures/monitoring. Connections to SSAANG / GI. Other mitigation possible depending on type and size of development.	£180,400	£1,804
Total		£6,758,387	-

5.7.3 *Development timing & certainty*

The mitigation suite for SSGA depends on the development of all proposed development sites to ensure that the mix of both SSAANG and SAMM are implemented. Although this can never be guaranteed, the council are reasonably certain that the sites will be developed. Three planning applications are currently pending and two planning applications are due to be

submitted in the coming months, and developers are keen to progress. Moreover, the council has formed a Joint Venture with the developers Igloo and Carillion to form 'Siglion'. Siglion have aspirations for Chapelgarth to be one of the first of the Joint Venture sites to be developed, with the submission of a planning application timetabled for 2015. Development of Chapelgarth and the other applications pending and due for submission would see a mix of both SSAANG and SAMM implemented.

Additionally, the council currently has no major stalled housing sites within the city, indicating that once planning permission is granted such developments generally do proceed. This provides greater certainty that once the SSGA developments have been granted planning permission then the sites will be developed and the associated mitigation implemented.

5.7.4 ***Treatment of possible future windfall sites and alterations to housing allowances***

Should other windfall sites come forward in close proximity to SSGA (not including the windfall site with 100 dwellings which is already addressed within this document) SCC as the Competent Authority will, through a HRA Screening Report, determine whether the windfall development will be likely to have Likely Significant Effects on the European sites, and therefore whether Appropriate Assessment will be required. If Appropriate Assessment is required, the windfall development will be required to include mitigation complementing that of the existing SSGA developments.

In the short-medium term, SCC is exploring Strategic Approaches, which will comprehensively consider the Likely Significant Effects of development sites throughout the city and identify appropriate mitigation measures. A Local Development Framework will ultimately be adopted that fully addresses HRA issues.

Should potential developers bring forward proposals with increased housing numbers to those assessed within this HRA; the difference will have to be dealt with through an individual project HRA. The project HRA will be required to assess the likely impacts from the additional housing numbers and identify further mitigation to address those impacts. This must include assessing any in-combination effects from increased residual effects arising from the additional housing numbers.

5.8 **In-combination assessment of residual effects**

The mitigation detailed within this report is considered sufficient to ensure that there will be no adverse effects from SSGA on the integrity of the European sites, for the reasons summarised in the assessment conclusion below. However, as there are always limitations to the success of any mitigation it is important to consider the potential of residual effects from relevant plans or projects.

County Durham neighbours SSGA therefore it is necessary to consider plans or projects of relevance produced by Durham County Council. The County Durham Plan identifies and allocates housing sites within the County Durham area, some of which are in proximity to SSGA and the European designated sites. There is potential for key in-combination residual effects from this plan and SSGA SPD.

The County Durham Plan is still currently pending and recent comments from the Planning Inspector have resulted in some uncertainty over its delivery. The plan, amongst other things allocates housing sites within the County and is likely to be subject to significant alterations (if not withdrawn), however at this time the plan can still be considered 'live' for the purposes of this assessment. The HRA for the current County Durham Plan concludes that it will "not have an adverse effect on the integrity of the European Protected Sites either alone or in-combination." This conclusion has been agreed by Natural England and not queried by the Inspector.

The SSGA SPD sets out a comprehensive monitoring programme for the European Sites in Section 5.6.8 and Table 5, this will also facilitate early detection of any developing issues relating to potential in-combination effects and includes for the implementation of additional mitigation measures that can be incorporated into the plan and have been budgeted for within the plan, giving confidence of implementation.

Additionally the SSGA SPD mitigation proposals include significant partnership working with both Durham County Council and Durham Heritage Coast, this will also ensure early detection of any developing in-combination residual effects as they emerge allowing a strategic approach to any mitigation required.

In-combination assessment must also consider non-plan based in-combination effects. In relation to the SSGA SPD, there are currently no pending planning applications of relevance (within the 6km buffer), therefore there can be no in-combination effects from current planning applications.

The most important point when considering the in-combination assessment of the SSGA HRA and other plans or projects is the fact that the SSGA HRA incorporates a very comprehensive suite of mitigation measures as well as strong safeguards for implementation through agreed funding proposals and extensive partnership working along with ongoing monitoring proposals.

This mitigation plan as set out in Sections 5.6 and 5.7 will result in minimal residual effects. Given the very low level of potential residual effect a detailed in-combination assessment cannot be justified as part of a plan HRA.

When all the above points are taken into consideration it can be concluded that the South Sunderland Growth Area SPD will not have any adverse effects on European Designated Sites in-combination with other plans or projects.

REASSESSMENT AND CONCLUSIONS

The discussions in section 5 concerning suitability of the proposed SSAANG and other green infrastructure indicate that current land use, SSAANG area, distances of SSAANG from housing and green link provision/upgrading are appropriate to the scale of the SSGA. As long as the SSAANG design principles given in section 5.6.6 are adhered to, the proposed SSAANG and accompanying green infrastructure is considered sufficient to absorb the majority of dog-walking activity from new residents at SSGA. This is appropriate given that the evidence suggests that dog-walking is likely to be the most significant visitor pressure issue in the area.

Use of the SSAANGs and diversion of recreational activity from the European sites will be promoted by the strategic access management measures. These measures (particularly the use of dog-leash restrictions, appointment of a coastal ranger and other means of educating and involving the public, promotion of the cliff-top England Coast Path rather than beaches, the strong southern boundary treatment at South Ryhope, and continued bye-law including restrictions on use of motorised vehicles) will be likely in combination to counteract potentially harmful recreational activity at the coastal European sites. The proposed monitoring surveys with additional follow-on mitigation measures (dog-bans and spatial access restrictions) provide assurance that in the unlikely event that early signs of mitigation failure are observed, then stronger measures are available to ensure that the integrity of the European sites is maintained.

The success of appropriate mitigation depends upon it being delivered. Assurance that it will be delivered is given by: a) the above detailed costing, and the breakdown of mitigation contributions that will be required of developers; b) obligations enforced by Sunderland City Council that developer's proposals include SSAANG, green links and other green infrastructure in accordance with the size, location and design requirements set out above in this report and the South Sunderland Growth Area SPD; and c) the Council taking responsibility for the implementation of the strategic access management and monitoring measures, and maintenance of mitigation measures implemented at SSGA, on receipt of the S106 contributions/commuted sums set out within this document.

When the mitigation suite detailed in Section 5.6 and Table 5 in Section 5.7, and the assurance of its provision through the detailed implementation, partnering and funding proposals set out in Tables 5, 6 & 7 in Section 5.7, are re-assessed against the conservation objectives for each site (set out in Sections 4.3.2 and 4.4.2) and the integrity tests (Sections 5.4.3 & 5.5.2) it can be concluded that the South Sunderland Growth Area SPD will not have an adverse effect on the integrity of the Northumbria Coast SPA/Ramsar site or Durham Coast SAC, either alone or in-combination. Sunderland City Council can therefore authorise the South Sunderland Growth Area SPD as an integral part of the Local Development Framework.

This is a HRA of a strategic level plan and does not remove the need for further HRA at lower planning level tiers and should be used to inform and support project specific HRA where required.

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WeBS Alerts

<http://www.bto.org/volunteer-surveys/webs/publications/webs-alerts>

APPENDIX 1: ABBREVIATIONS

BTO	British Trust for Ornithology (an independent charitable research institute)
DBC	Durham Bird Club (ornithologist association in the County Durham area)
DCC	Durham County Council
DPD	Development Plan Document (a planning policy document, part of the LDF)
HRA	Habitat Regulations Assessment (the process of assessing effects of projects and plans on European sites; see Introduction for explanation)
JNCC	Joint Nature Conservation Committee (the statutory adviser to the UK and devolved governments, comprising representatives of the statutory nature conservation bodies for England, Scotland, Wales and Northern Ireland, and independent advisers)
LDF	Local Development Framework (a system of planning policy documents)
LMD	Land for Major Development (a strategic planning term)
LSE	Likely Significant Effect (a term used in HRA; see Introduction for explanation)
LWS	Local Wildlife Site (a non-statutory local nature conservation designation)
RSPB	Royal Society for the Protection of Birds (a nature conservation charity)
SAC	Special Area of Conservation (a statutory European nature conservation designation for habitats and non-bird species, cf. SPA)
SAMM	Strategic Access Management and Monitoring (access-related mitigation)
SAANG	South Sunderland Areas of Additional Natural Greenspace (a mitigation measure to displace recreational pressure from protected sites)
SANG	Suitable Alternative Natural Greenspace (Natural England term for a mitigation measure to displace recreational pressure from protected sites used at Thames Basin Heaths SPA(among others))
SCC	Sunderland City Council
SPA	Special Protection Area (a statutory European nature conservation designation for birds)
SPD LDF)	Supplementary Planning Document (a planning policy document, part of the
SSGA	South Sunderland Growth Area (the subject of this report)
SSSI designation)	Site of Special Scientific Interest (a statutory national nature conservation
UDP	Unitary Development Plan (a system of planning policy documents which is being replaced by the LDF)

WeBS	Wetland Bird Survey (on-going coastal/freshwater bird surveys in the UK, often undertaken by volunteers, and run by a partnership of BTO, RSPB, JNCC and WWT)
WWT	Wildfowl and Wetlands Trust (a nature conservation charity)

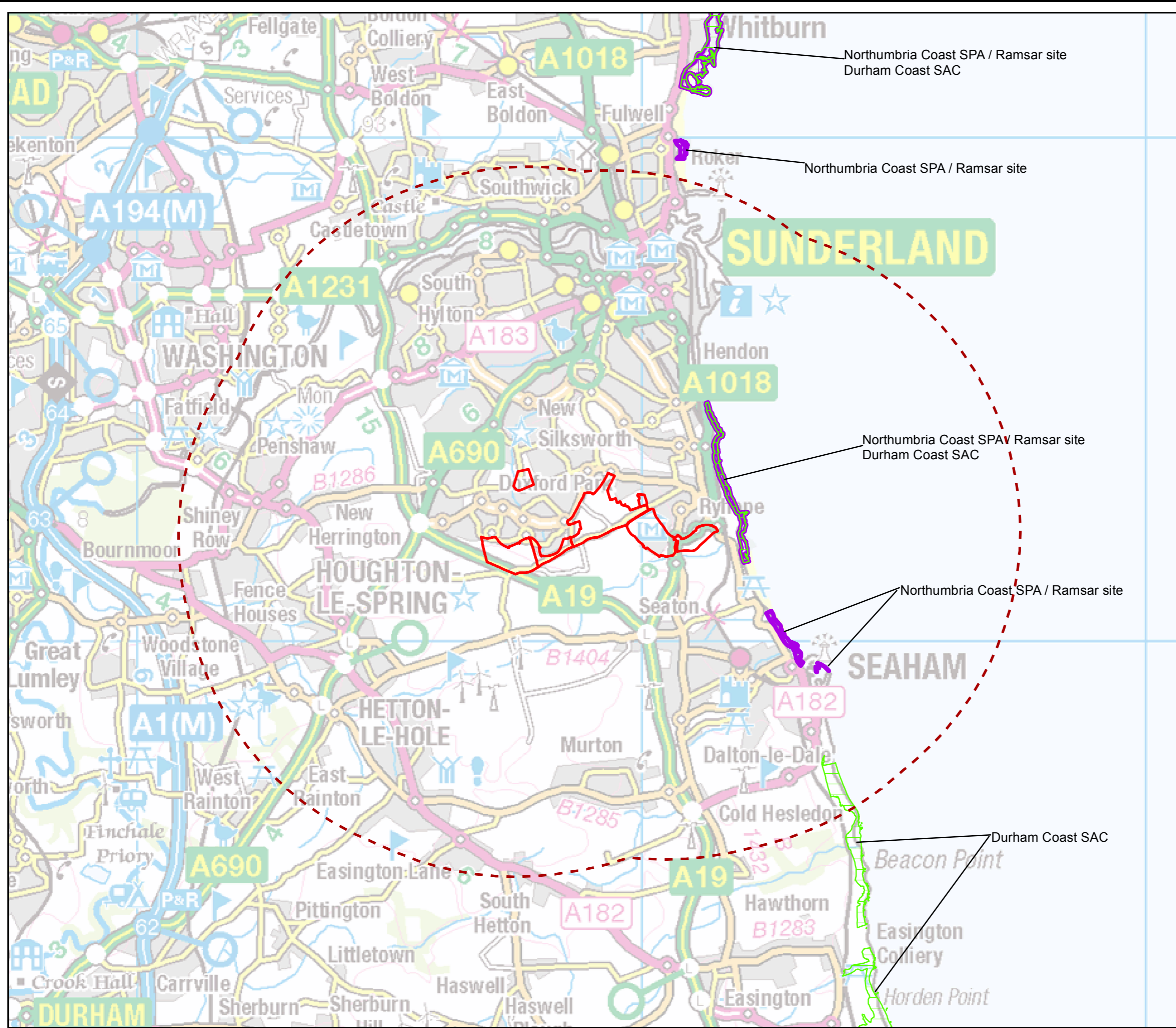
APPENDIX 2: FIGURES

Figure 1: Wide-scale map with SSGA and designated sites

Figure 2: SSGA development areas with nearby European site sections

Figure 3: SSAANGs and other green infrastructure

Figure 4: Semi-natural accessible coastal recreation area within 6km

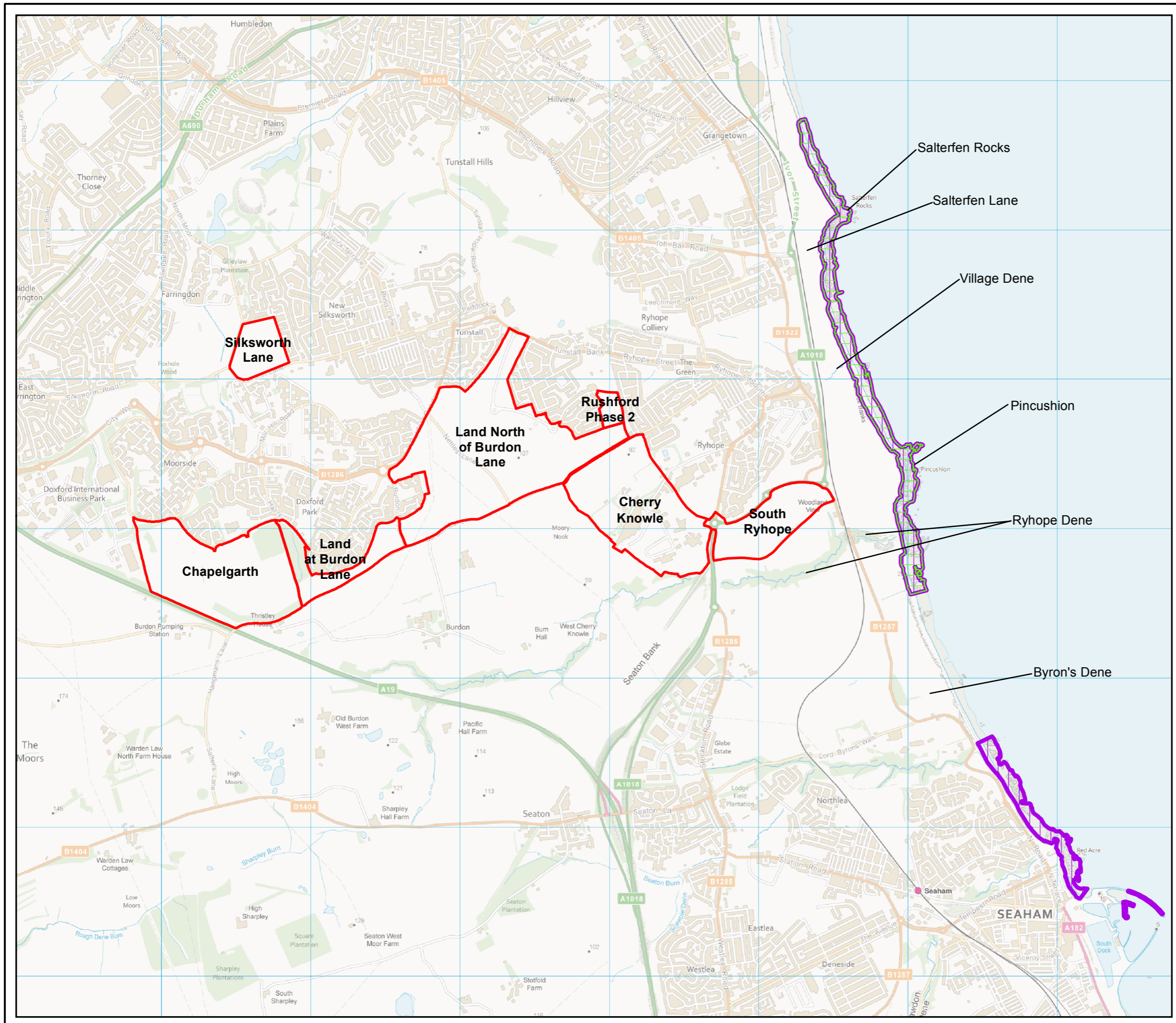


Key:

- SSGA 6km buffer
- SSGA development areas
- SAC
- SPA

Figure 1
Location of SSGA and European sites

SSGA SPD: Report to inform Appropriate Assessment



Key:

- SSGA development areas
- SAC
- SPA / Ramsar site

Salterfen Rocks

Salterfen Lane

Village Dene

Pincushion

Ryhope Dene

Byron's Dene

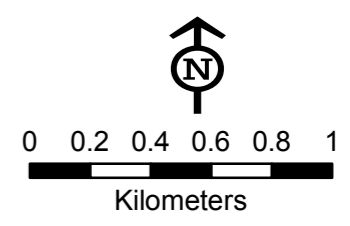
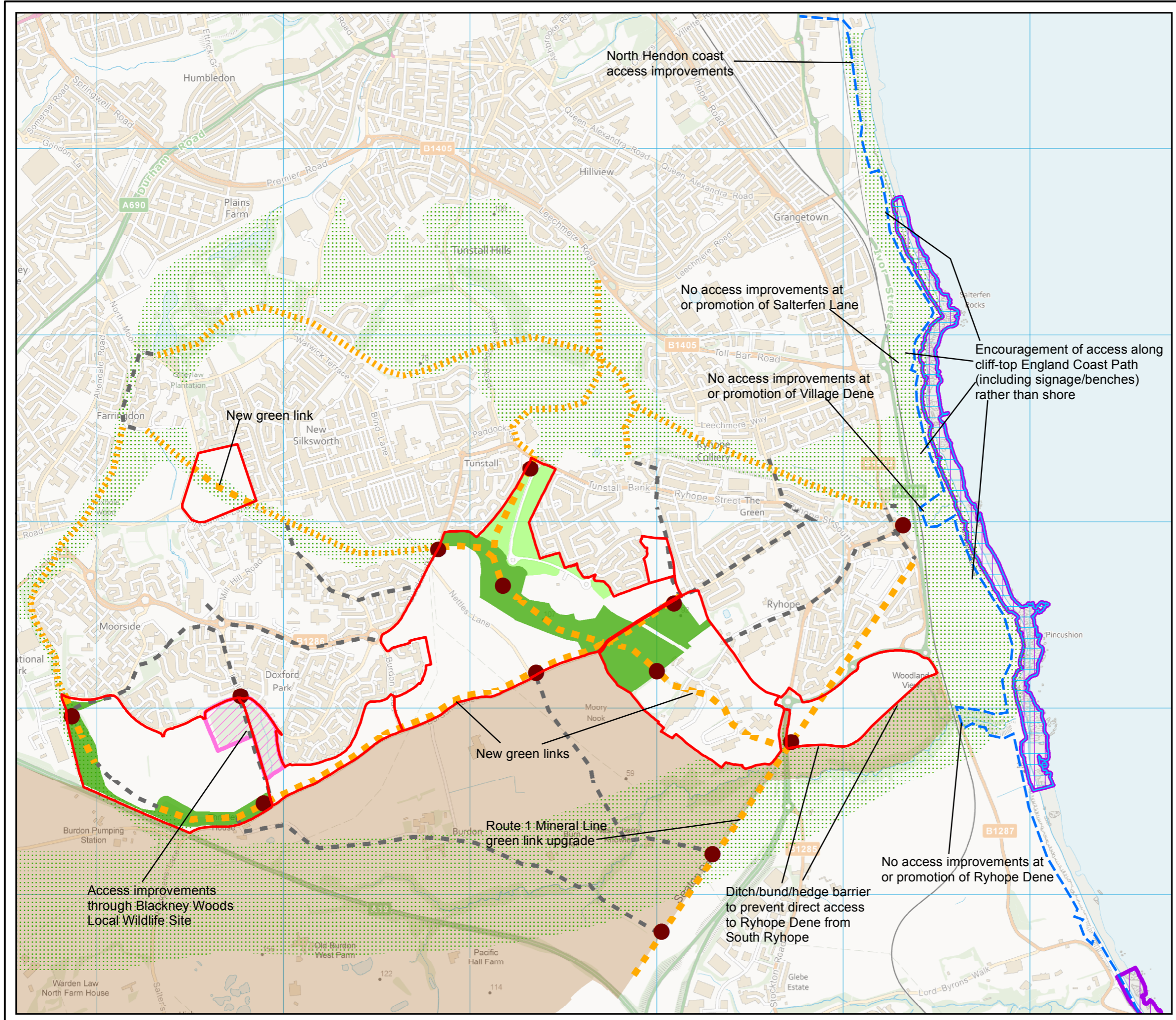


Figure 2
SSGA development areas, with nearby European site sections

SSGA SPD: Report to inform Appropriate Assessment



- Key:**
- Interpretation panels/maps for SSAANG/GI
 - Green link to be made/upgraded for SSGA
 - - - Green links not part of SSGA mitigation (mostly existing)
 - - - Other routes (mostly existing)
 - - - England Coast Path (existing)
 - SSAANGs to be provided for SSGA
 - Other greenspace to be provided for SSGA
 - ⋯ Corridors / Green wedges / Settlement breaks
 - Green Belt
 - Blakeney Woods Local Wildlife Site
 - Durham Coast SAC
 - Northumbria Coast SPA / Ramsar site
 - SSGA development areas

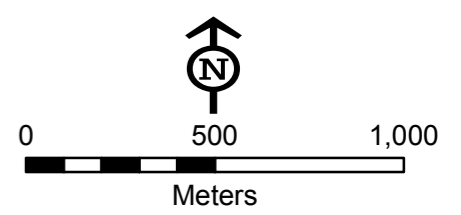
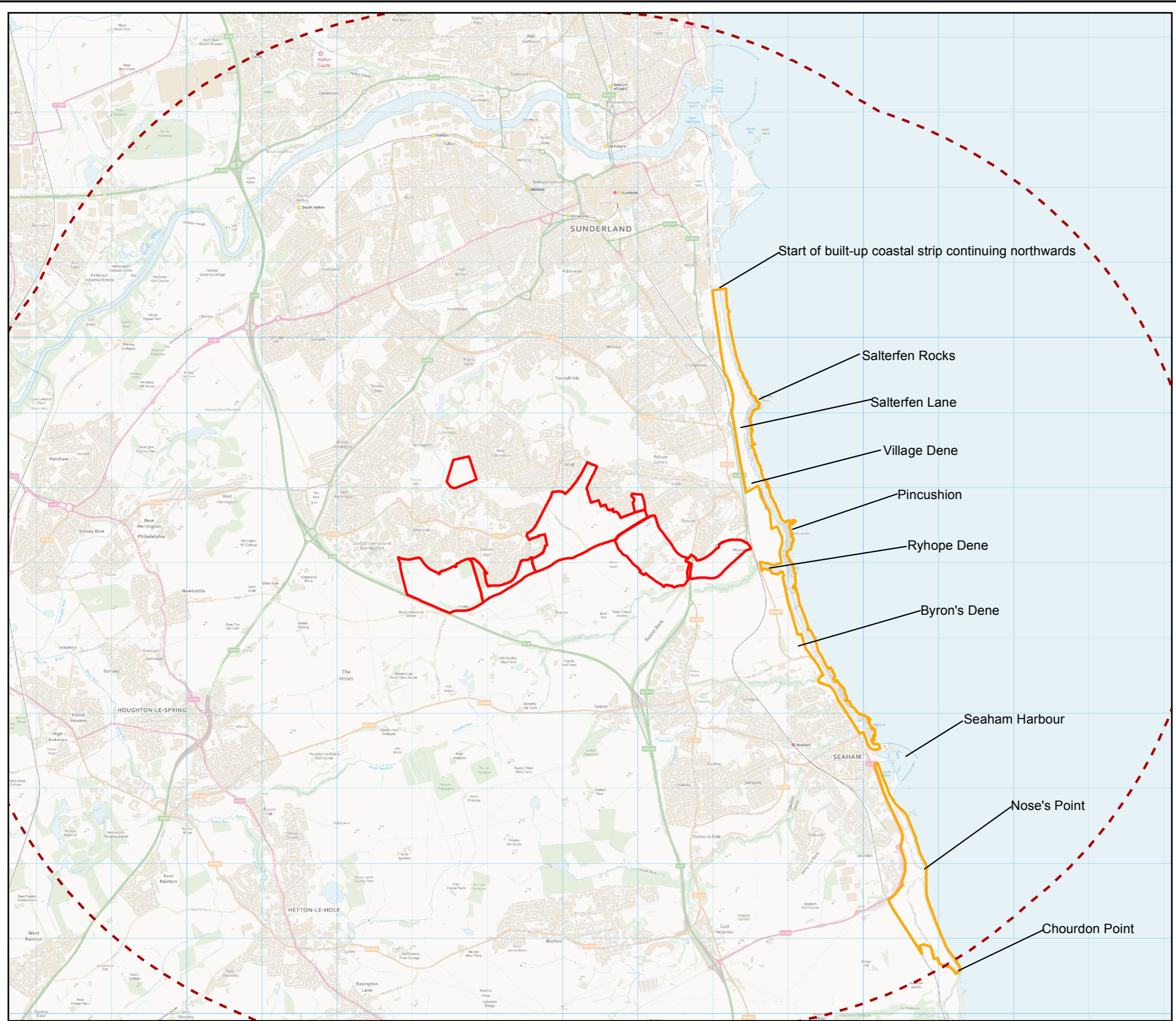


Figure 3
SSAANGs, Green Infrastructure & associated access routes

SSGA SPD: Report to inform Appropriate Assessment



- Key:**
- SSGA 6km buffer
 - SSGA development areas
 - Semi-natural accessible coastal recreation area

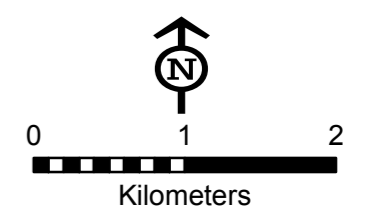


Figure 4
Existing semi-natural accessible coastal recreation area within 6km

SSGA SPD: Report to inform Appropriate Assessment

