



# Report to Inform a Habitats Regulations Assessment

Copeland Borough Council  
Publication Draft Local Plan

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## Summary

<b>Project</b>	Copeland Borough Council Publication Draft Local Plan
<b>Report commissioned by</b>	Copeland Borough Council
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The Screening stage of the report to inform a Habitats Regulations Assessment (HRA) established that some policies and housing allocations, employment sites and draft opportunity areas within the Publication Draft Local Plan could not be screened out.

<b>Main Aspects of Local Plan Screened In</b>	<b>Reasons for Screening In</b>
<p><u>Strategic Development policies</u> DS3PU (Settlement Hierarchy) DS4PU (Settlement Boundaries)</p> <p><u>Housing policies</u> H2PU (Housing Requirement) H4PU (Distribution of Housing) H5PU (Housing Allocations) H6PU (New Housing Development) H11PU (Community-led, Self-build and Custom Build Housing) H12PU (Residential Establishments, Including Specialist, Older Persons Housing and Purpose Built Student and Key-worker Accommodation) H13PU (Conversion and Sub-division of Buildings to Residential Uses Including Large HMO's) H14PU (Domestic Extensions and Alterations) H17PU (Conversion of Rural Buildings to Residential Use) H18PU (Replacement Dwellings Outside Settlement Boundaries)</p> <p><u>Economic policies</u> E1PU (Economic Growth) E3PU (West Lakes Science and Technology Park) E4PU (Cleator Moor Innovation Quarter at Leconfield) E6PU (Opportunity Sites) E7PU (Safeguarding of Employment Sites) RE1PU (Agricultural Buildings) RE2PU (Equestrian Related Development)</p> <p><u>Nuclear Development policies</u> NU1PU (Supporting Development of the Nuclear Sector) NU2PU (Maximising Opportunities from Nuclear Decommissioning) NU3PU (General Nuclear Energy Sector and associated Development and Infrastructure) NU4PU (Nuclear Development at Sellafield)</p> <p><u>Retail and Leisure policies</u> R2PU (Hierarchy of Town Centres) R3PU (Whitehaven Town Centre)</p>	<p>At present, the quantum, type and location of development could lead to Likely Significant Effects (LSE) through several pathways of impact.</p>
<p><u>Transport policies</u> CO2PU (Priorities for the Improvement of Transport Networks Within Copeland)</p>	<p>At present, the location of development could lead to LSE through reduced air quality and recreational pressure.</p>

Main Aspects of Local Plan Screened In	Reasons for Screening In
<u>Health, Sports and Culture policies</u> SC3PU (Playing Fields and Pitches)	At present, the quantum, type and location of development could lead to LSE through recreational disturbance or loss of supporting habitats.
Housing Allocations, Employment Sites and Draft Opportunity Areas	At present, the quantum, type and location of development could lead to LSE through several pathways of impact.

These policies and housing allocations, employment sites and draft opportunity areas were then subject to Appropriate Assessment in order to determine approaches that may be implemented to ensure avoidance or mitigation of Likely Significant Effects (LSE) arising from the Plan itself and in combination with other relevant plans and projects.

It was possible to conclude that the policies and housing allocations, employment sites and draft opportunity areas included within Copeland Borough Council's Publication Draft Local Plan document will not lead to LSE on any NSN and Ramsar sites through the following pathways of impact, both alone and in combination with other plans and projects:

- Recreational pressure and disturbance
- Reduced air quality
- Reduced water resources, altered flows or hydrologies
- Reduced water quality
- Urbanisation
- Loss of or disturbance to supporting habitats
- Coastal squeeze

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Appendix 1 NSN and Ramsar Site Information

Appendix 2 Air Quality Assessment Report

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# 1 Introduction

## 1.1 Background

1.1.1 David Archer Associates was commissioned by Copeland Borough Council (BC) to compile a report to inform a Habitats Regulations Assessment (HRA) in relation to their emerging Local Plan. This will include three key aspects: strategic policies, emerging deliverable and developable draft allocations, and development management policies.

1.1.2 In 2013, Copeland BC adopted their Core Strategy and Development Management Policies Development Plan Document (DPD), which was subject to a HRA (Copeland Borough Council, 2012)<sup>1</sup>. This DPD will be superseded by the new emerging Local Plan, following its adoption. The Council produced an Issues and Options document that was subject to public consultation between November 2019 and January 2020. The outcomes of this were taken into account in producing a draft Preferred Options document that was the subject of a report to inform a HRA in 2020<sup>2</sup>. The Council consulted on the draft Preferred Options document at the end of 2020 and the responses have been used to inform a Publication Draft Local Plan. This latest iteration of the Local Plan is the subject of this updated report to inform a HRA.

## 1.2 The HRA Process

1.2.1 The objective of the HRA process is to:

- Identify any aspects of the Local Plan that would cause an adverse effect on the integrity of Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and, as a matter of Government policy, Ramsar sites, either in isolation or in combination with other plans and projects. The assessment also includes potential or proposed designations currently under public consultation for future designation as SACs, SPAs and Ramsar sites<sup>3</sup>; and
- To advise on appropriate mechanisms for delivering mitigation through policy or modifications to land allocations where such effects are identified.

1.2.2 The Conservation of Habitats and Species Regulations 2017 and the Conservation of Offshore Marine Habitats and Species Regulations 2017 transpose the European Union Birds Directive 1979/2009 and Habitats Directive 1992 into UK law. Under these regulations, competent authorities are required to consider whether plans or projects will have a likely significant effect on the integrity of a SAC, SPA or Ramsar site.

1.2.3 As part of the post-Brexit legislative updates, the Conservation of Habitats and Species Regulations has been updated to form The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. Under this legislation update the protected SACs and SPAs, formerly known as Natura 2000 sites, European sites or internationally designated

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<sup>1</sup> Copeland Borough Council, 2012. Habitats Regulations Assessment Screening Report.

<sup>2</sup> David Archer Associates, 2020. Habitats Regulations Assessment – Copeland Local Plan Preferred Options.

<sup>3</sup> Ministry for Housing, Communities and Local Government, 2019. National Planning Policy Framework.

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sites are now referenced as National Site Network (NSN) sites. The NSN absorbs existing SACs and SPAs and any future designations will occur under the new Regulations.

1.2.4 The Habitats Regulations Assessment process enables the competent authority to establish if the integrity of protected SAC, SPA and Ramsar sites is likely to be significantly impacted by a proposed plan or project by following a five-stage process as follows:

- **Stage 1:** Determine whether the proposal is directly connected to or necessary for the management of the NSN or Ramsar site.
- **Stage 2: Screening.** This stage identifies the potential effects of a plan or project on the qualifying features of NSN and Ramsar sites (without mitigation) and assesses whether these effects will be significant alone or in combination with other plans or projects. Where there remains uncertainty, the potential effect is carried forward to the next stage.
- **Stage 3: Appropriate Assessment.** Where LSE is found or uncertainty remains, more detailed assessment is carried out, considering adverse effects alone and in combination with other plans and projects. This stage considers avoidance and mitigation.
- **Stage 4: No Alternatives and Imperative reasons of overriding public interest (IROPI).** If stage 3 concludes there is LSE that requires mitigation, but that mitigation is not deliverable, then the tests of no alternatives and IROPI must be met.
- **Stage 5: Compensatory Measures.** Where mitigation is not achievable and there are no alternatives, and IROPI applies, compensation to maintain the NSN or Ramsar conservation objectives must be delivered.

1.2.5 For those effects that are unlikely to be significant when screened at Stage 2 with the plan or project considered in isolation, these are then considered as part of an in combination assessment in relation with other plans or projects which may impose the same or interlinked effects on the same designated sites. If such effects are likely to be considered significant in respect of in-combination impacts, these are then recommended for further consideration at Stage 3 Appropriate Assessment.

1.2.6 Case law provides important direction in defining and determining the meaning of the words 'likely' and 'significant' in the context of HRA (Boggis v Natural England [2009] EWCA Civ 1061, 20th October 2009, paras 36 & 37; Advocate-General Sharpston's opinion in Sweetman v An Bord Pleanála [2011] CJEU C-258/11, 11th April 2013, para 48).

1.2.7 Case law has also provided key information that confirms that mitigation measures that would not otherwise take place without the need to mitigate for effects on a designated site, must not be included in the Stage 2 Screening Assessment (People Over Wind & Sweetman v Coillte [2018] CJEU C-323/17, 12th April 2018), but must be considered during Stage 3: Appropriate Assessment.

1.2.8 Another ruling (Holahan, Case C-461/17) was handed down by the European Court of Justice that states that for designated sites, other habitat types or species, which are present on the site, but for which that site has not been listed, and with respect to habitat types and species located outside that site, ... typical habitats or species must be included in the Appropriate

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Assessment, if they are necessary to the conservation of the habitat types and species listed for the protected area.

1.2.9 All of these rulings will be given due consideration in this report to inform a HRA.

### **1.3 Objective**

1.3.1 The objective of this report is to provide information for Stage 1, Stage 2 Screening and where necessary Stage 3 Appropriate Assessment in relation to potential impacts of the proposed Plan on relevant NSN and Ramsar sites.

## 2 Methodology

### 2.1 NSN and Ramsar Sites Scoping

2.1.1 The SACs, SPAs and Ramsar sites to be included within the scope of the report to inform a HRA have been determined by a three stage process:

- Review of the HRA screening report that informed the existing Core Strategy and Development Management Policies DPD. This is because it is likely that the same SACs, SPAs and Ramsar sites will require inclusion within the Local Plan HRA as similar areas of policy are likely to be included;
- Initial consultation with Natural England regarding the scope of the report to inform a HRA in order to determine their agreement with the SACs, SPAs and Ramsar sites that should be included, and also the major mechanisms by which effects might arise (pathways of impact); and
- Assessment of whether ‘pathways of impact’ exist between the NSN and Ramsar sites in question and the policies and housing allocations, employment sites and draft opportunity areas being developed within Copeland Borough.

### 2.2 Pathways of Impact

2.2.1 The following ‘pathways of impact’ have been included within the assessment process.

#### Recreational Pressure and Disturbance

2.2.2 Recreational access to sites can have many potential impacts. Visitors may cause erosion, fragmentation of habitats and damage to habitats through trampling. Cycling, motorcycling and other forms of vehicular recreation may exacerbate such effects. For some freshwater and coastal NSN and Ramsar sites, water sports may also lead to habitat damage and disturbance of species.

2.2.3 NSN and Ramsar sites protected for species are vulnerable to disturbance, which may be caused by visual presence, noise, light or vibration. Although species such as bats and amphibians are subject to disturbance, concern regarding the effects of disturbance is primarily focused on NSN and Ramsar sites designated for birds. This stems from the fact that they are generally active during the day time or dependent on specific locations at certain tidal states and may be present in areas where human activity is most likely to conflict with use of a site and at which time they may be caused to expend energy unnecessarily. In parallel with this, disturbance tends to cause birds to be more alert and therefore less able to feed optimally. When birds are under stress (e.g. surviving winter conditions, or when attempting to raise young) the ‘condition’ and ultimately survival of the birds can be affected.

#### Non-Recreational Disturbance

2.2.4 Recreation is not the only pathway through which disturbance effects may occur on NSN and Ramsar sites. The proximity of noisy, visually intrusive or light-generating development can

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also result in disturbance and displacement of species for which NSN and Ramsar sites are designated. This is likely to potentially apply to a wide range of non-recreational developments including industrial, tourism, infrastructure, minerals and waste, and energy or power generating facilities.

#### Air Quality

- 2.2.5 The main pollutants of concern for NSN and Ramsar sites are oxides of nitrogen (NO<sub>x</sub>), ammonia (NH<sub>3</sub>) and sulphur dioxide (SO<sub>2</sub>). NO<sub>x</sub> can have a directly toxic effect upon vegetation. In addition, greater NO<sub>x</sub> or ammonia concentrations within the atmosphere will lead to greater rates of nitrogen deposition to soils. An increase in the deposition of nitrogen from the atmosphere to soils is generally regarded to lead to an increase in soil fertility, which can have a serious negative effect on the quality of nitrogen-limited terrestrial habitats.
- 2.2.6 Ammonia emissions are dominated by agriculture, with some chemical processes also making notable contributions, whilst sulphur dioxide is primarily from industrial processes. A major source of NO<sub>x</sub> emissions, however, is the output of vehicle exhausts (28% of all emissions)<sup>4</sup>. According to the World Health Organisation, the critical NO<sub>x</sub> concentration (critical threshold) for the protection of vegetation is 30 µgm<sup>-3</sup>. In addition, ecological studies have determined ‘critical loads’<sup>5</sup> of atmospheric nitrogen deposition (that is, NO<sub>x</sub> combined with ammonia NH<sub>3</sub>).
- 2.2.7 Following a judgement in 2017 (Wealden District Council v Secretary of State for Communities and Local Government, Lewes District Council and South Downs National Park Authority) it is no longer appropriate to scope out the need for a detailed assessment of an individual project or plan using, for example, the previously widely applied threshold of an increase of greater than 1000 annual average daily traffic (AADT) movements (Design Manual For Roads and Bridges (DMRB))<sup>6</sup> or the threshold of an increase of greater than 1% of the critical level or load as used by Defra/Environment Agency<sup>7</sup> without first considering the in-combination impact with other projects and plans. This position has been adopted by Natural England in its internal guidance for competent authorities assessing road traffic emissions under the Habitats Directive<sup>8</sup>.
- 2.2.8 The Department of Transport’s Transport Analysis Guidance that “*beyond 200m, the contribution of vehicle emissions from the roadside to local pollution levels is not significant*” is still accepted as valid and applicable.

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<sup>4</sup> European Environment Agency, 2019. Emissions of Air Pollutants from Transport. Available online at: <https://www.eea.europa.eu/data-and-maps/indicators/transport-emissions-of-air-pollutants-8/transport-emissions-of-air-pollutants-8>

<sup>5</sup> The critical load is the rate of deposition beyond which research indicates that adverse effects can reasonably be expected to occur.

<sup>6</sup> Highways Agency, 2007, Design Manual for Roads and Bridges, Volume 11 Environmental Assessment, Section 3 Environmental Assessment Techniques, Part 1 HA207/07 Air Quality.

<sup>7</sup> [www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit](http://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit)

<sup>8</sup> Natural England, 2018, Natural England’s approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations.

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### Water Availability and Flows

- 2.2.9 Appropriate hydrological conditions are a key consideration for many NSN and Ramsar sites. These can be affected by many human induced processes. For example, river flows may be affected by structures introduced into channels such as weirs, dams or by processes such as siltation or dredging. Estuarine and marine hydrological conditions can be influenced by coastal defence works or other coastal construction that can alter erosion and accretion patterns. Offshore energy schemes can affect marine hydrology as can processes such as barrages or desalination plants. Water abstraction for consumption or for industrial processes (e.g. mineral extraction) can have effects on groundwater which has the potential to affect both terrestrial and freshwater NSN and Ramsar habitats and dependent species.
- 2.2.10 Water supply within Copeland is the responsibility of United Utilities (UU). Within the final Water Resources Management Plan (WRMP)<sup>9</sup> that covers the period from 2019-2045, UU have indicated that surplus water is available within the lifetime of Copeland's Local Plan, allowing for projected population growth within this period. Their strategy includes provision of new Water Treatment Works (WTWs) and a pipeline from Thirlmere reservoir into West Cumbria that will be operational from 2022.

### Water Quality

- 2.2.11 High water quality is critical to many aquatic habitats for which NSN and Ramsar sites are designated. Both surface water and groundwater pollution can arise as a result of strategic planning and Housing allocations, employment sites and draft opportunity areas. Surface water pollution may arise as a result of run-off from hard surfaces or where existing catchments have been modified. Reduced water quality can also occur as a result of population increases which lead to increased pressure on waste water treatment works capacities, and can result in increased levels of nutrients in receiving water courses. In many urban areas, sewage treatment and surface water drainage systems are combined, and therefore a predicted increase in flood and storm events could increase pollution risk. Groundwater pollution can arise as a consequence of spillages infiltrating permeable surfaces within the catchment of NSN and Ramsar sites.

### Loss of or Disturbance to Supporting Habitats

- 2.2.12 SPAs and most Ramsar sites are designated for bird species, which are mobile features and therefore often utilise land outside the geographic limits of the NSN or Ramsar site for feeding, roosting or even breeding. Some SACs are also designated in part for mobile species such as bats and fish. Where this occurs, the areas that the designated species utilise outside of the NSN or Ramsar site also require assessment under HRA as effects on such supporting habitats can have material effects on the protected populations of the NSN or Ramsar sites.

### Urbanisation Effects

- 2.2.13 Urbanisation effects arise from proximity of development to NSN and Ramsar sites. One example of urbanisation is fly-tipping, which has the potential not only to directly harm

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<sup>9</sup> United Utilities (2019). Final Water Resources Management Plan 2019.

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habitats, but can also lead to introduction of non-native invasive species through the dumping of spoil or garden waste.

- 2.2.14 A second example of urbanisation effects is of cat predation. It has been estimated that a British population of approximately 9 million cats brought home in the order of 92 million prey items in the period of April to August 1997 (Woods *et al.*, 2003). Plans and projects that have been subject to HRA have in general incorporated a zone of 400m around proposed development over which cat predation is considered to be a potentially significant impact on vulnerable receptors.

#### Coastal Squeeze

- 2.2.15 Climate change is predicted to result in rising sea levels over the coming decades. With no artificial barriers, habitats would be expected to migrate landward as sea levels rise. However, man-made structures such as housing, employment sites, tourist facilities, infrastructure and energy projects are all examples of types of development that by their nature are often suited to coastal locations, but which have the potential to preclude landward retreat of habitats. For some NSN and Ramsar designated sites, habitats such as saltmarshes, dunes and intertidal mudflats may therefore become restricted and species that depend on such habitats may also suffer population decline.

### **2.3 NSN and Ramsar Sites Screened In/Out of HRA Process**

- 2.3.1 The following NSN and Ramsar sites have been included within the screening stage of the report to inform a HRA:

- Borrowdale Woodland Complex SAC
- Clints Quarry SAC
- Drigg Coast SAC
- Duddon Mosses SAC
- Lake District High Fells SAC
- Morecambe Bay SAC
- North Pennine Dales Meadows SAC
- River Derwent and Bassenthwaite Lake SAC
- River Ehen SAC
- Roudsea Wood and Mosses SAC
- Subberthwaite, Blawith and Torver Low Commons SAC
- Wast Water SAC
- Yewbarrow Woods SAC
- Morecambe Bay and Duddon Estuary SPA
- Solway Firth SPA
- Duddon Estuary Ramsar
- Esthwaite Water Ramsar
- Morecambe Bay Ramsar

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## 2.4 In Combination Assessment

2.4.1 It is a requirement of the Regulations that the impacts and effects of any land use plan being assessed are not considered in isolation but in combination with other plans and projects that may also be affecting the relevant NSN and Ramsar site(s). The plans and projects that have been included in undertaking this report to inform a HRA are as follows:

- Lake District National Park Local Plan 2020-2035 (adopted 2021) and Marine Conservation Zone Assessment;
- Allerdale Local Plan Part 1 2014-2029 (adopted 2014);
- Allerdale Local Plan Part 2 (adopted 2020);
- South Lakeland Local Plan Part 1 Core Strategy 2003-2025 (adopted 2010);
- South Lakeland Local Plan Land Allocations Development Plan Document (adopted 2013);
- Arnside and Silverdale AONB Delivery Plan (adopted 2019);
- Barrow Borough Local Plan 2016-2031 (adopted 2019);
- Lancaster Strategic Policies and Land Allocations Development Plan Document (adopted 2020);
- Wyre Local Plan 2011-2031 (adopted 2019);
- Great Ormes Head to Scotland Shoreline Management Plan;
- Cumbria Coastal Strategy;
- Draft North West Inshore and Offshore Marine Plan;
- North Shore Harbour/ Innovation Zone, Whitehaven;
- Barrow Port Area Action Plan;
- Barrow Waterfront Business Park;
- Morecambe Bay Gas Terminals projects;
- Transport for the North;
- Cumbrian Coast Line Community Rail Partnership;
- Cumbria Minerals and Waste Local Plan 2015-2030;
- Copeland Vision 2040;
- Cumbria Metallurgical Coal Project;
- Coastal Activity Centre (The Edge) and Velotel (Whitehaven); and
- Cumbria Local Transport Plan 2011-2026.

### **3 Screening Assessment**

#### **3.1 Policies**

3.1.1 Each draft policy forming part of the Publication Draft Local Plan has been assessed to determine if it can be screened out under HRA. This is achieved by analysing any pathway of impact identified that could theoretically connect designated features of the relevant NSN and Ramsar site with actions that may arise from implementation of that policy. Where it is possible to conclude that no likely significant effects would arise, then the policy does not require further investigation in the Appropriate Assessment stage of HRA. In so reaching such a conclusion, the policy is considered alone, as a part of the integrated Plan and in combination with the plans and projects listed in **Section 2.4** above.

#### **3.2 Housing allocations, employment sites and draft opportunity areas**

3.2.1 Each site allocation forming part of the Publication Draft Local Plan is also assessed to determine if it can be screened out under HRA. Where it is possible to conclude that no likely significant effects would arise, then the site allocation does not require further investigation in the Appropriate Assessment stage of HRA.

**Table 3.1: Screening of Policies within the Copeland Borough Council Publication Draft Local Plan Document.**

Orange shading indicates that a policy has been screened in as requiring Appropriate Assessment, green shading indicates that it has been screened out.

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
DS1PO: Presumption in Favour of Sustainable Development	No LSE.	Natural England agree with the policy ambitions.	DS1PU: Presumption in Favour of Sustainable Development	<p>The Council will take a positive approach to sustainable development by approving applications without delay where they accord with the Development Plan (and where relevant any neighbourhood plan) unless material considerations indicate otherwise.</p> <p>Where there are no Local Plan policies relevant to the application or relevant policies most important for determining the application are out of date at the time the decision is made, the Council will grant planning permission unless material considerations indicate otherwise, taking into account whether:</p> <ul style="list-style-type: none"> <li>-the application of policies within the National Planning Policy Framework that protect areas or assets of particular importance provide a clear reason for refusing the development proposed; or</li> <li>-any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against policies within the National Planning Policy Framework taken as a whole.</li> </ul> <p>The Council will work proactively with developers to highlight any areas where there is conflict with the Development Plan, and suggest solutions, at an early stage in the application process. Planning conditions to planning approvals where they are necessary, relevant to planning and the</p>	No change – No LSE as the policy indicates that applications will only be approved without delay “unless material considerations indicate otherwise.” Material considerations relating to the presumption in favour of sustainable development are laid out in the National Planning Policy Framework (NPPF, 2019) that indicates that ‘the presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site’	No change – No LSE.

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
				development to be permitted, enforceable, precise and reasonable.		
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Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
				<p>existing building stock and previously developed land</p> <p>Sustainable land use management, forestry and farming practices and encouraging agri-environmental schemes</p> <p>Environmental benefits, including contributions towards Local Nature Recovery Networks, the provision and enhancement of local green spaces, woodland creation and preservation, peatland restoration and preservation, provision of green roofs and walls, and native species preservation.</p> <p>Measures to exceed the 10% Biodiversity Net gain requirement.</p> <p>Additional aspects of sustainable design and development which contribute towards a reduced carbon footprint will also be looked at favourably by the Council.</p>		
DS2PO: Settlement Hierarchy	Possible LSE	No HRA specific responses.	DS3PU: Settlement Hierarchy	Minor policy amendments to redefine status of some settlements.	This policy defines the preferred location of development and as such, without mitigation there is LSE on NSN and Ramsar sites through a range of pathways of impact.	The potential effects identified for the Plan alone could also apply in combination with other plans and projects.
DS3PO: Settlement Boundaries	Possible LSE	Natural England commented that extensions to settlement boundaries should not result in	DS4PU: Settlement Boundaries	Minor policy amendments.	Development, particularly outside of settlement boundaries may be permitted if a proven need for a particular location is provided. At present this	The potential effects identified for the Plan alone could also apply in combination with

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
		additional adverse impacts upon designated sites.			includes a range of development types that could lead to LSE on NSN and Ramsar sites through a range of pathways of impact, and therefore this policy cannot currently be screened out.	other plans and projects.
DS4PO: Strategic Development Priorities	Possible LSE	No HRA specific responses.	<b>Policy removed</b>			
DS5PO: Development Principles (ST1)	No LSE	Natural England – Welcomed inclusion of green infrastructure.  Advise inclusion of text relating to timely provision of infrastructure to support new development.	<b>Policy removed</b>			
DS6PO: Planning Obligations	No LSE	No HRA specific responses.	DS5PU: Planning Obligations	Minor policy amendments.	There is no LSE on NSN and Ramsar sites arising from this policy, as it does not directly lead to pathways of impact that would be likely to affect NSN and Ramsar sites. The policy is instead concerned with the <i>mechanism</i> of provision of necessary	No LSE as the policy will not directly lead to any LSE on NSN and Ramsar sites.

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
					infrastructure or commitments relating to new development – the actual requirements themselves will be identified through project level planning applications and will be determined through the approvals process, at which point protection of NSN and Ramsar sites will be a consideration.	
DS7PO: Design Standards	No LSE	No HRA specific responses.	DS6PU: Design and Development Standards	Policy amended but no changes that would affect NSN or Ramsar sites.	The policy does not contain any measures that would lead to LSE.	The policy does not contain any measures that would lead to LSE.
DS10PO: Landscaping	No LSE	No responses.	DS7PU: Hard and Soft Landscaping	Policy amended but no changes that would affect NSN or Ramsar sites.	No LSE – this policy although not directly relevant to NSN and Ramsar sites, does seek to protect and enhance biodiversity.	No LSE
DS8PO: Reducing Flood Risk	No LSE	No HRA specific responses.	DS8PU: Reducing Flood Risk	No policy changes.	No LSE. Although the policy supports measures to prevent tidal and fluvial flooding, and to manage coastal erosion and flooding risks, which could lead to pathways of impact affecting NSN and Ramsar sites, no such strategic development that would create adverse effects on NSN and Ramsar sites will be permitted outside of pre-existing strategic initiatives or	No LSE. Although the policy supports measures to prevent tidal and fluvial flooding, and to manage coastal erosion and flooding risks, which could lead to pathways of impact affecting NSN and Ramsar sites, no such strategic

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
					prior to stakeholder engagement, which would include bodies such as the Environment Agency, Marine Management Organisation and Natural England.	development that would create adverse effects on NSN and Ramsar sites will be permitted outside of pre-existing strategic initiatives or prior to stakeholder engagement, which would include bodies such as the Environment Agency, Marine Management Organisation and Natural England.
DS9PO: Sustainable Drainage	No LSE.	No responses.	DS9PU: Sustainable Drainage	No policy changes.	No LSE – this policy is positive in seeking to avoid the risk of reductions in water quality.	No LSE.
DS11PO: Soils and contamination	No LSE	No HRA specific responses.	DS10PU: Soils, Contamination and Land Stability	Policy amended but no changes that would affect NSN or Ramsar sites.	No LSE.	No LSE
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Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
				Applications for new or extended farming developments must include details of measures to reduce ammonia emissions where appropriate.		
E1PO: Economic Growth	Possible LSE.	No responses.	E1PU: Economic Growth	No policy changes.	This policy could lead to LSE on NSN and Ramsar sites as it advocates various forms of economic development that could lead to various pathways of impact affecting sensitive sites.	This policy could lead to LSE on NSN and Ramsar sites as it advocates various forms of economic development that could lead to various pathways of impact affecting sensitive sites.
E2PO: Location of Employment	No LSE.	Natural England recommend that biodiversity impacts be given greater weight.	E2PU: Location of Employment	No policy changes.	This policy could have LSE on NSN and Ramsar sites through location of development and intensification of existing uses, however the policy does state that such development will only be allowed where impacts on biodiversity are deemed acceptable. Such impacts would need to be assessed at a project-specific level and would need to include project-specific HRA where appropriate.	This policy could have LSE on NSN and Ramsar sites through location of development and intensification of existing uses, however the policy does state that such development will only be allowed where impacts on biodiversity are deemed acceptable. Such impacts would need to be assessed at a project-specific level and would need to include

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
						project-specific HRA where appropriate, including in combination assessment.
E3PO: West Lakes Science and Technology Park	Possible LSE in combination.	No responses.	E3PU: West Lakes Science and Technology Park	No policy changes.	<p>The site ultimately drains to the River Ehen SAC to the east and upstream of Egremont is designated for freshwater pearl mussel and Atlantic salmon. Any pollution reaching the SAC could result in deterioration of aquatic habitat. Reduced water quality as a result of polluted run-off or pollution events during construction and operation cannot therefore be screened out.</p> <p>The location of the West Lakes Science and Technology Park means that the only other pathway of impact by which LSE could occur would be through reduced air quality associated with vehicle movements to and from the site – should expansion take place. Alone, this is unlikely to lead to LSE on NSN and Ramsar sites.</p>	<p>In combination with other plans and projects this policy is screened in due to the potential for increased traffic on the A595 road, and potential for reduced air quality affecting Drigg Coast SAC, Morecambe Bay and Duddon Estuaries SPA and River Derwent and Bassenthwaite Lake SAC.</p> <p>The site ultimately drains to the River Ehen SAC to the east and upstream of Egremont is designated for freshwater pearl mussel and Atlantic salmon. Any pollution reaching the SAC could result</p>

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
						in deterioration of aquatic habitat. Reduced water quality as a result of polluted run-off or pollution events during construction and operation cannot therefore be screened out.
			E4PU: Cleator Moor Innovation Quarter at Leconfield	<p>Leconfield Industrial Estate and Associated Growth Areas will be redeveloped to create the Cleator Moor Innovation Quarter as the location to attract new businesses and investment, develop new markets and increase collaboration and economic clustering. The boundary of the existing allocated site and future Associated Growth Areas are outlined in Figure 1.</p> <p>Existing Leconfield Industrial Estate (Area 1)</p> <p>The primary uses on the Cleator Moor Innovation Quarter development will be limited to Use Class B2, Use Class B8 and Use Class E(g) only. Community infrastructure, community facilities and secondary uses to support the primary uses on the development will be supported within a single building or small cluster of buildings within the development to act as a focal point for the development and local community. Any development will be required to demonstrate how it retains and where possible enhances existing connections and linkages through the site and to the wider settlement of Cleator Moor.</p>	<p>The site is over 1km from the River Ehen SAC but is in close proximity to the Nor Beck that feeds into the SAC and therefore reduced water quality as a result of polluted run-off cannot be screened out.</p> <p>Area 3 may comprise habitats suitable as functionally linked land for SPA and Ramsar designated bird species. LSE is unlikely from this project alone however.</p>	<p>The site is over 1km from the River Ehen SAC but is in close proximity to the Nor Beck that feeds into the SAC and therefore reduced water quality as a result of polluted run-off cannot be screened out.</p> <p>Area 3 may comprise habitats suitable as functionally linked land for SPA and Ramsar designated bird species. LSE is possible in combination with other plans and projects.</p>

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
				<p>Associated Growth Areas (Areas 2 and 3)</p> <p>It is expected that development will initially be focussed on the existing Leconfield Industrial Estate. However, the development of the Associated Growth Areas as an extension of the Cleator Moor Innovation Quarter will be supported when one of the following can be demonstrated:</p> <ul style="list-style-type: none"> <li>•The Existing Leconfield Industrial Estate has been fully redeveloped; or</li> <li>•It can be demonstrated that the requirements of the businesses seeking to occupy the Cleator Moor Innovation Quarter cannot be met on the Existing Leconfield Industrial Estate.</li> </ul> <p>The primary uses on Growth Area 2 will be limited to Use Class E(g) and student accommodation linked to the site. The primary uses on Growth Area 3 will be limited to Use Class B2, Use Class B8 and Use Class E(g) only. Any development will be required to demonstrate how it links to the redevelopment of the existing Leconfield Industrial Estate and retains and where possible enhances existing connections to the wider settlement of Cleator Moor.</p>		
E4PO: Employment Sites and Allocations	No LSE.	Natural England – Hensingham Common, Whitehaven and Whitehaven Commercial Park	E5PU: Employment Sites and Allocations	Hensingham Common no longer included.  Red Lonning, Whitehaven (1.8ha), Energy Coast Business Park, Haile (3.6ha) and Haverigg Industrial Estate, Haverigg (2.6ha) added.	The policy requires employment sites and allocations to be in conformity with criteria set out within policy E2PO, which includes protection of biodiversity.	The policy requires employment sites and allocations to be in conformity with criteria set out within policy E2PO, which includes

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
		require assessment for SPA bird interest, within the Plan HRA.  Development at Cleator Mills requires project-level AA.		Cleator Mills was not previously included and is still not included.		protection of biodiversity.
E5PO: Town Centre Opportunity and Regeneration Areas	Possible LSE.	Natural England –  Development at Cleator Mills requires assessment within the Plan HRA .	E6PU: Opportunity Sites	Opportunity sites are listed in the supporting text.	Support for the development and/or redevelopment of opportunity sites in the towns of Whitehaven, Cleator Moor, Egremont and Millom leaves the possibility of LSE on NSN and Ramsar sites through various pathways of impact.	Support for the development and/or redevelopment of opportunity and key regeneration sites in the towns of Whitehaven, Cleator Moor, Egremont and Millom leaves the possibility of LSE on NSN and Ramsar sites through various pathways of impact.
E6PO: Safeguarding of Employment Sites	Possible LSE.	No responses.	E7PU: Safeguarding of Employment Sites	No policy changes.	Safeguarding of sites does not create LSE on NSN and Ramsar sites, however part of this policy considers submission of proposals and criteria for consideration for alternative uses of employment sites rather than safeguarding and	Safeguarding of sites does not create LSE on NSN and Ramsar sites, however part of this policy considers submission of proposals and

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
					there are no measures to avoid or mitigate impacts on NSN and Ramsar sites included.	criteria for consideration for alternative uses of employment sites rather than safeguarding and there are no measures to avoid or mitigate impacts on NSN and Ramsar sites included.
RE1PO: Agricultural Buildings	Possible LSE.	Natural England –  Request a specific air quality policy to address ammonia emissions.  Suggest policy is linked to N1PU compliance.	RE1PU: Agricultural Buildings	The policy has been amended to state that:  <i>“New agricultural buildings requiring planning permission will be supported where...the building implements measures to reduce ammonia emissions arising from farming practices where possible.”</i>  A new air quality policy and supporting text has also been included within the Plan (DS11PU).	Dependent on the location of farm complexes, likely significant effects could occur on NSN and Ramsar sites, although in reality the scale of development is likely to be small.  Proposals to require reductions in ammonia emissions are positive. Ammonia emissions have also been assessed under policy DS11PU.	Dependent on the location of farm complexes, likely significant effects could occur on NSN and Ramsar sites, in combination with other plans and projects.  Proposals to require reductions in ammonia emissions are positive. Ammonia emissions have also been assessed under policy DS11PU.
RE2PO: Equestrian Related Development	Possible LSE.	No responses.	RE2PU: Equestrian Related Development	Minor amendments but no changes that would affect NSN or Ramsar sites.	Dependent on the location of commercial equestrian development, likely significant effects could occur on NSN and Ramsar sites,	Dependent on the location of commercial equestrian development, likely

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
					although in reality the scale of development is likely to be small.	significant effects could occur on NSN and Ramsar sites, in combination with other plans and projects.
RE3PO: Conversion of Rural Buildings to Commercial or Community Use	Possible LSE.	No HRA specific responses.	RE3PU: Conversion of Rural Buildings to Commercial or Community Use	Policy has been amended to state that:  <i>“The conversion and re-use of buildings in the open countryside for commercial or community use will be supported where:  Conversion would not have a significant negative impact on the natural environment and appropriate surveys are carried out where necessary.”</i>	The policy now includes text that will ensure that conversion must not have a significant negative impact on biodiversity including NSN and Ramsar sites.	The policy now includes text that will ensure that conversion must not have a significant negative impact on biodiversity including NSN and Ramsar sites.
CC1PO: Reducing the impacts of development on climate change	No LSE.	No HRA specific comments.	<b>Policy removed. Policy DS2PU has been introduced in respect of tackling climate change.</b>			
CC2PO: Large Scale Renewable Energy Developments, Geothermal, Low-carbon and Decarbonisation, Hydrogen to Electricity Plants, and other Large Scale Technologies (excluding nuclear	No LSE.	No responses.	CC1PU: Large Scale Renewable Energy Developments (excluding nuclear and wind energy developments)	Policy text amended to say:  <i>“Where proposals would result in significant adverse effects, proposals will only be accepted where this is outweighed by the wider environmental, economic, social and community benefits and in the case of the historic environment balanced against public benefit as per national policy.”</i>	Large scale energy projects can lead to LSE on NSN and Ramsar sites through a number of impact pathways.  The policy does state that  “Where proposals would result in significant adverse effects, proposals will only be accepted where this is	Large scale energy projects can lead to LSE on NSN and Ramsar sites through a number of impact pathways.  The policy does state that

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
and wind energy developments)					<p>outweighed by the wider environmental, economic, social and community benefits and in the case of the historic environment balanced against public benefit as per national policy.”</p> <p>The level of protection afforded to NSN and Ramsar sites would ensure that IROPI, no alternatives, and compensatory measures would all be required to demonstrate this.</p>	<p>“Where proposals would result in significant adverse effects, proposals will only be accepted where this is outweighed by the wider environmental, economic, social and community benefits and in the case of the historic environment balanced against public benefit as per national policy.”</p> <p>The level of protection afforded to NSN and Ramsar sites would ensure that IROPI, no alternatives, and compensatory measures would all be required to demonstrate this.</p>
CC3PO: Wind Energy Developments	No LSE.	Natural England – Requires assessment for	CC2PU: Wind Energy Developments	Policy text amended to say: <i>“Where proposals would result in significant adverse effects, proposals will only be accepted</i>	Wind energy projects can lead to LSE on NSN and Ramsar sites through a number of impact pathways.	Wind energy projects can lead to LSE on NSN and Ramsar sites

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
		SPA/ Ramsar bird interest, within the Plan HRA.		<i>where this is outweighed by the wider environmental, economic, social and community benefits and in the case of the historic environment balanced against public benefit as per national policy."</i>	<p>The policy does state that</p> <p><i>"Where proposals would result in significant adverse effects, proposals will only be accepted where this is outweighed by the wider environmental, economic, social and community benefits and in the case of the historic environment balanced against public benefit as per national policy."</i></p> <p>The level of protection afforded to NSN and Ramsar sites would ensure that IROPI, no alternatives, and compensatory measures would all be required to demonstrate this.</p>	<p>through a number of impact pathways.</p> <p>The policy does state that</p> <p><i>"Where proposals would result in significant adverse effects, proposals will only be accepted where this is outweighed by the wider environmental, economic, social and community benefits and in the case of the historic environment balanced against public benefit as per national policy."</i></p> <p>The level of protection afforded to NSN and Ramsar sites would ensure that IROPI, no alternatives, and compensatory measures would all be required to demonstrate this.</p>

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
CC4PO: Supporting Development of the Nuclear Sector	Possible LSE.	No responses.	NU1PU: Supporting Development of the Nuclear Sector	Policy amended but no changes that would affect NSN or Ramsar sites.  However, the supporting text does discuss the potential locations of nuclear sector developments.	Nuclear facilities can lead to LSE on NSN and Ramsar sites in similar manner to other employment and energy facilities.	Nuclear facilities can lead to LSE on NSN and Ramsar sites in similar manner to other employment and energy facilities.
CC5PO: Maximising opportunities from Nuclear Decommissioning and Transformation	Possible LSE.	No responses.	NU2PU: Maximising opportunities from Nuclear Decommissioning	Policy amended to include Cleator Moor Innovation Centre as a possible location for opportunities.	Although this policy promotes economic growth related to the nuclear sector, it appears unlikely to result in large scale development away from existing nuclear facilities and unlikely to generate pathways of impact that would be different or greater than existing nuclear facilities prior to decommissioning or transformation.  Nonetheless project-specific HRAs may be required dependent on scale or location and therefore at this stage the policy is screened in.	Although this policy promotes economic growth related to the nuclear sector, it appears unlikely to result in large scale development away from existing nuclear facilities and unlikely to generate pathways of impact that would be different or greater than existing nuclear facilities prior to decommissioning or transformation.  Nonetheless project-specific HRAs may be required dependent on scale or location and therefore at this stage the policy is screened in.

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
CC6PO: Supporting Energy Sector Development and Infrastructure	Possible LSE.	No responses.	NU3PU: General Nuclear Energy and associated Development and Infrastructure	Policy amended but no changes that would affect NSN or Ramsar sites.	This policy focuses on support for energy sector and major infrastructure development, and although some mitigation is included this only seeks to 'minimise potential impacts', which in relation to potential LSE on NSN and Ramsar sites leaves open the possibility of LSE, prior to any mitigation.	This policy focuses on support for energy sector and major infrastructure development, and although some mitigation is included this only seeks to 'minimise potential impacts', which in relation to potential LSE on NSN and Ramsar sites leaves open the possibility of LSE, prior to any mitigation.
CC7PO: Nuclear Sector Development at Sellafield	Possible LSE.	No responses.	NU4PU: Nuclear Development at Sellafield	Policy amended but no changes that would affect NSN or Ramsar sites.	Nuclear facilities can lead to LSE on NSN and Ramsar sites in similar manner to other employment and energy facilities.	Nuclear facilities can lead to LSE on NSN and Ramsar sites in similar manner to other employment and energy facilities.
CC8PO: Nuclear Demolition	No LSE.	No responses.	NU5PU: Nuclear Demolition	Minor amendments but no changes that would affect NSN or Ramsar sites.	This policy will not allow demolition that harms ecological assets, including NSN and Ramsar sites, unless mitigation or compensation is provided.	This policy will not allow demolition that harms ecological assets, including NSN and Ramsar sites, unless mitigation or

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
					The level of protection afforded to NSN and Ramsar sites would ensure that IROPI, no alternatives, and compensatory measures would all be required to demonstrate this.	compensation is provided. The level of protection afforded to NSN and Ramsar sites would ensure that IROPI, no alternatives, and compensatory measures would all be required to demonstrate this.
R1PO: Vitality and Viability of Town Centres and other Identified Villages Within the Hierarchy	No LSE.	No responses.	R1PU: Vitality and Viability of Town Centres and Villages Within the Hierarchy	Minor amendments but no changes that would affect NSN or Ramsar sites.	Retail capacity has the potential to increase road journeys to and from town centres, however the majority of the journeys are likely to be made from local areas. These journeys are unlikely to involve any notable increases in traffic passing within 200m of NSN and Ramsar sites sensitive to air quality reductions.	Retail capacity has the potential to increase road journeys to and from town centres, however the majority of the journeys are likely to be made from local areas. These journeys are unlikely to involve any notable increases in traffic passing within 200m of NSN and Ramsar sites sensitive to air quality reductions either alone or in combination with

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
						other plans and projects.
R2PO: Hierarchy of Town Centres	Possible LSE.	No responses.	R2PU: Hierarchy of Town Centres	Minor amendments but no changes that would affect NSN or Ramsar sites.	<p>Retail capacity has the potential to increase road journeys to and from town centres, key service centres and local centres, however the majority of the journeys are likely to be made from local areas. These journeys are unlikely to involve any notable increases in traffic passing within 200m of NSN and Ramsar sites sensitive to air quality reductions.</p> <p>The policy does include support for residential and leisure development also, and these do lead to potential for LSE on NSN and Ramsar sites.</p>	<p>Retail capacity has the potential to increase road journeys to and from town centres, key service centres and local centres, however the majority of the journeys are likely to be made from local areas. These journeys are unlikely to involve any notable increases in traffic passing within 200m of NSN and Ramsar sites sensitive to air quality reductions.</p> <p>The policy does include support for residential and leisure development also, and these do lead to potential for LSE on NSN and Ramsar sites.</p>

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
R5PO: Whitehaven Town Centre	Possible LSE in combination.	No responses.	R3PU: Whitehaven Town Centre	Policy amended but no changes that would affect NSN or Ramsar sites.	This policy specifically encourages an increase in leisure offer within the coastal area, and along the harbour frontage. Although the Solway Firth SPA lies offshore at Whitehaven, the potential for disturbance of bird species for which the SPA is designated cannot be screened out. Given the size of the SPA, LSE as a result of this individual policy alone is however considered unlikely.	This policy specifically encourages an increase in leisure offer within the coastal area, and along the harbour frontage. Although the Solway Firth SPA lies offshore at Whitehaven, the potential for disturbance of bird species for which the SPA is designated cannot be screened out in combination with other plans and projects.
R7PO: The Key Service Centres	No LSE.	No responses.	R4PU: The Key Service Centres	Policy amended but no changes that would affect NSN or Ramsar sites.	Within the town centres of these key service centres, LSE on NSN and Ramsar sites is unlikely to occur as a result of shopping or evening leisure or the nature of residential accommodation.	Within the town centres of these key service centres, LSE on NSN and Ramsar sites is unlikely to occur as a result of shopping or evening leisure or the nature of residential accommodation.

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
R8PO: Local Service Centres, Sustainable and Other Rural Villages	No LSE.	No responses.	R5PU: Retail and Service Provision in Rural Areas	Policy amended but no changes that would affect NSN or Ramsar sites.  Now also incorporates former draft policy R13PO: Loss of Village Shops, Post Offices and Public Houses.	Development of this nature within Local Service Centres, Sustainable Villages and Other Rural Villages is unlikely to lead to pathways of impact that will result in LSE on NSN and Ramsar sites.	Development of this nature within Local Service Centres, Sustainable Villages and Other Rural Villages is unlikely to lead to pathways of impact that will result in LSE on NSN and Ramsar sites.
R6PO: Whitehaven Town Centre Primary Shopping Area	No LSE.	No responses.	R6PU: Whitehaven Town Centre Primary Shopping Area	Minor amendments but no changes that would affect NSN or Ramsar sites.	Within the town centre, LSE on NSN and Ramsar sites is unlikely to occur as a result of development within the primary shopping area.	Within the town centre, LSE on NSN and Ramsar sites is unlikely to occur as a result of development within the primary shopping area.
R3PO: Sequential Test	Possible LSE.	No responses.	R7PU: Sequential Test	The policy has been amended to state that:  <i>“In the exceptional cases where new retail development will be supported in out of town locations, where the sequential test has been satisfied, the development must:</i>  •Avoid or mitigate against harm to the natural environment, including biodiversity assets  •Consider and respect the existing landscape and built environment	This policy does allow the possibility of out of town locations for retail uses, but now seeks to protect biodiversity from harm, including NSN and Ramsar sites.	This policy does allow the possibility of out of town locations for retail uses, but now seeks to protect biodiversity from harm, including NSN and Ramsar sites.

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
				•Ensure that the highway network is capable of supporting additional traffic linked to the use.”		
R4PO: Retail and Leisure Impact Assessments	No LSE.	No responses.	R8PU: Retail and Leisure Impact Assessments	No policy changes.	No LSE as the policy sets out criteria for impact assessments based on floorspace.	No LSE as the policy sets out criteria for impact assessments based on floorspace.
R7aPO: Cleator Moor Town Centre	No LSE.	No responses.	<b>Policy removed.</b>			
R7bPO: Egremont Town Centre	No LSE.	No responses.	<b>Policy removed.</b>			
R7cPO: Millom Town Centre	No LSE.	No responses.	<b>Policy removed.</b>			
R9PO: Open Countyside (Rest of the Borough)	Possible LSE.	No responses.	<b>Policy removed.</b>			
R10PO: Non-Retail Development in Town Centres	No LSE.	No responses.	R9PU: Non-Retail Development in Town Centres	No policy changes.	Development of this nature is focused toward town and retail centres, and at such locations is unlikely to lead to pathways of impact that will result in LSE on NSN and Ramsar sites.	Development of this nature is focused toward town and retail centres, and at such locations is unlikely to lead to pathways of impact that will result in LSE on NSN and Ramsar sites.
R12PO: Hot Food Takeaways	No LSE.	No responses.	R10PU: Hot Food Takeaways	Minor amendments but no changes that would affect NSN or Ramsar sites.	The nature and scale of such development is unlikely to	The nature and scale of such

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
					lead to LSE on NSN and Ramsar sites.	development is unlikely to lead to LSE on NSN and Ramsar sites.
R13PO: Loss of Village Shops, Post Offices and Public Houses	No LSE.	No responses.	Now incorporated into other policy.			
T1PO: Strengthening the Tourism Offer	No LSE.	No responses.	<b>Policy removed.</b>			
T2PO: Tourism Development	No LSE.	No responses.	T1PU: Tourism Development	<p>The Local Plan supports the creation, enhancement and expansion of tourist attractions, visitor accommodation and infrastructure in line with the settlement hierarchy. All tourism development must be of an appropriate scale, located where the environment and infrastructure can accommodate the visitor impact, and where it does not result in unacceptable harm to environmental assets or the character of the area. Proposals for tourism development in sustainable and other rural villages and outside of defined settlements will be supported where</p> <p>The proposal is for a specific activity or function that requires a location that cannot be accommodated for within the Principal Town, Key Service or Local Service Centres; or</p> <p>The proposal enhances the Borough's existing place bound assets; or</p>	<p>Unmitigated, increased tourism can lead to LSE on NSN and Ramsar sites through increased recreational pressure, disturbance, reduced air quality, and potentially other pathways of impact. However the policy is clear that any proposal must ensure that it:</p> <p><i>"does not result in unacceptable harm to environmental assets."</i></p> <p>LSE on NSN and Ramsar sites would be unacceptable harm to environmental assets.</p>	<p>Unmitigated, increased tourism can lead to LSE on NSN and Ramsar sites through increased recreational pressure, disturbance, reduced air quality, and potentially other pathways of impact. However the policy is clear that any proposal must ensure that it:</p> <p><i>"does not result in unacceptable harm to environmental assets."</i></p>

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
				<p>The proposal is for the change of use, or diversification of an existing building, to provide overnight or longer stay visitor accommodation; or</p> <p>The proposal is for a farm diversification scheme in a rural area that will provide or enhance tourism provision.</p>		LSE on NSN and Ramsar sites would be unacceptable harm to environmental assets.
T3PO: Coastal Development Outside of the Undeveloped Coast	No LSE.	No HRA specific comments.	T2PU: Coastal Development Along the Developed Coast	Policy amended but no changes that would affect NSN or Ramsar sites.	<p>Unmitigated, increased tourism can lead to LSE on NSN and Ramsar sites through increased recreational pressure, disturbance, reduced air quality, and potentially other pathways of impact. However the policy is clear that any proposal must ensure that it:</p> <p><i>“does not result in unacceptable harm to environmental assets.”</i></p> <p>LSE on NSN and Ramsar sites would be unacceptable harm to environmental assets.</p>	<p>Unmitigated, increased tourism can lead to LSE on NSN and Ramsar sites through increased recreational pressure, disturbance, reduced air quality, and potentially other pathways of impact. However the policy is clear that any proposal must ensure that it:</p> <p><i>“does not result in unacceptable harm to environmental assets.”</i></p> <p>LSE on NSN and Ramsar sites would be unacceptable harm to</p>

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
						environmental assets.
T4PO: Caravans and Camping Sites for Short Term Letting	Possible LSE.	Natural England – Policy needs to address potential for recreational disturbance affecting SPA birds.	T3PU: Caravans and Camping Sites for Short Term Letting	Policy amended to state that “Proposals for both new sites and intensifications within and extensions to existing sites shall....not result in unacceptable biodiversity impacts.”	Unacceptable biodiversity impacts would include LSE on NSN and Ramsar sites, in particular through the pathways of recreational pressure and disturbance. Therefore the amended policy now includes text that will allow avoidance of LSE.	Unacceptable biodiversity impacts would include LSE on NSN and Ramsar sites, in particular through the pathways of recreational pressure and disturbance. Therefore the amended policy now includes text that will allow avoidance of LSE.
H1PO: Improving the Housing Offer	No LSE.	No responses.	H1PU: Improving the Housing Offer	Minor amendments but no changes that would affect NSN or Ramsar sites.	Though this policy is concerned with housing delivery, it does not directly relate to a quantum or location of development, but rather sets standards of delivery. In itself it will not lead to LSE on NSN and Ramsar sites.	Though this policy is concerned with housing delivery, it does not directly relate to a quantum or location of development, but rather sets standards of delivery. In combination with other plans and projects it will not lead to LSE on NSN and Ramsar sites.

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
H2PO: Housing Requirement	Possible LSE.	No responses.	H2PU: Housing Requirement	Minor changes to housing numbers, but no changes that would affect previous screening outcomes in relation to NSN or Ramsar sites.	This policy stipulates the quantum of housing required to be delivered during the Plan period. As such it promotes development that, in the absence of mitigation, would result in pathways of impact that could affect NSN and Ramsar sites.	In combination with proposed developments in neighbouring local authorities, which for example, amounts to over 38,000 new developments within Local Plans for the Lake District National Park, South Lakeland, Allerdale, Barrow, Lancaster and Wyre, then the proposed quantum of housing would result in pathways of impact that could affect NSN and Ramsar sites.
H3PO: Housing Delivery	Possible LSE.	No responses.	H3PU: Housing Delivery	<p>Policy has now been amended. The policy does not identify a quantum of housing to be delivered on particular allocated sites.</p> <p>The policy does allow for a review of housing numbers and locations, but only as part of a Local Plan Review, which would be subject to HRA.</p>	The policy no longer provides a pathway of impact by which LSE on NSN or Ramsar sites could occur as no quantum and location of housing is included and there is no mechanism for changes to quantum and location without a review that would be subject to consultation.	The policy no longer provides a pathway of impact by which LSE on NSN or Ramsar sites could occur as no quantum and location of housing is included and there is no mechanism for changes to

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
						quantum and location without a review that would be subject to consultation.
H4PO: Distribution of Housing	Possible LSE.	Natural England – Policy should cross-reference the need for compliance with other Plan policies, including N1PU.  Policy wording could be similar to E2PU and E5PU.	H4PU: Distribution of Housing	Housing numbers have changed slightly across the Borough, and minor changes to settlement hierarchies, but no changes that would affect previous screening outcomes in relation to NSN or Ramsar sites.	This policy could lead to LSE on NSN and Ramsar sites as it identifies the location of housing to be delivered within the Borough.	This policy could lead to LSE on NSN and Ramsar sites as it identifies the location of housing to be delivered within the Borough, which in combination with development elsewhere could lead to LSE on NSN and Ramsar sites.
H5PO: Housing Allocations	Possible LSE.	Natural England – Policy should cross-reference the need for compliance with other Plan policies, including N1PU.  Policy wording could be similar to E2PU and E4PU. Housing at Cleator Moor will require	H5PU: Housing Allocations	Changes have been made to housing numbers and locations, however no changes that would affect previous screening outcomes in relation to NSN or Ramsar sites.	This policy could lead to LSE on NSN and Ramsar sites as it identifies the location of housing to be delivered within the Borough.	This policy could lead to LSE on NSN and Ramsar sites as it identifies the location of housing to be delivered within the Borough, which in combination with development elsewhere could lead to LSE on NSN and Ramsar sites.

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
		HRA due to River Ehen SAC.  Housing at Millom will require HRA due to nearby SPA/Ramsar.				
H6PO: New Housing development	Possible LSE.	No responses.	H6PU: New Housing development	Policy has been amended to state that planning permission will be granted for housing development on allocated and windfall sites where:  <i>"The design, layout, scale and appearance of the development is appropriate to the locality and development proposals should clearly demonstrate that consideration has been given to surrounding natural, cultural and historical assets."</i>	This policy could lead to LSE on NSN and Ramsar sites as it identifies the presumption of permission for new housing to be granted. Although ecological criteria are now considered, the wording does not preclude the potential for development even where LSE might be possible on NSN or Ramsar sites.	This policy could lead to LSE on NSN and Ramsar sites as it identifies the presumption of permission for new housing to be granted. Although ecological criteria are now considered, the wording does not preclude the potential for development even where LSE might be possible on NSN or Ramsar sites.
H7PO: Housing Density and Mix	No LSE.	No responses.	H7PU: Housing Density and Mix	Minor amendments but no changes that would affect NSN or Ramsar sites.	No LSE as this policy is concerned only with the layout, need for, and size, type and tenure of housing rather than quantum and location of new developments.	No LSE as this policy is concerned only with the layout, need for, and size, type and tenure of housing rather than quantum and location of new developments.

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
H8PO: Affordable housing	No LSE.	No responses.	H8PU: Affordable housing	Minor amendments but no changes that would affect NSN or Ramsar sites.	No LSE as the type of housing to be provided will not lead to pathways of impact in itself that would lead to potential LSE on NSN and Ramsar sites.	No LSE as the type of housing to be provided will not lead to pathways of impact in itself that would lead to potential LSE on NSN and Ramsar sites.
---	---	---	H9PU: Allocated Site for Gypsies, Travellers and Travelling Showpeople	New policy that will allocate a site.	There is no potential for LSE on NSN and Ramsar sites, as the policy is subject to the safeguarding measures now included in policy H10PU.	There is no potential for LSE on NSN and Ramsar sites, as the policy is subject to the safeguarding measures now included in policy H10PU.
H9PO: Gypsies, Travellers and travelling showpeople Windfall Sites	No LSE.	No responses.	H10PU: Gypsies, Travellers and Travelling Showpeople Sites	Minor amendments but no changes that would affect NSN or Ramsar sites.	No LSE as the policy promotes measures associated with gypsy and traveller site that would reduce the likelihood of impacts on NSN and Ramsar sites. Specifically it commits to such developments not leading to 'significant adverse impact on...nature conservation or biodiversity sites.'	No LSE as the policy promotes measures associated with gypsy and traveller site that would reduce the likelihood of impacts on NSN and Ramsar sites. Specifically it commits to such developments not leading to 'significant adverse impact on...nature

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
						conservation or biodiversity sites.'
H10PO: Community-led, Self-build and custom build housing	Possible LSE.	No responses.	H11PU: Community-led, Self-build and custom build housing	No policy changes.	Dependent on the location of self and custom-built housing, likely significant effects could occur on NSN and Ramsar sites, although in reality the scale of development is likely to be small.	Dependent on the location of self and custom-built housing, likely significant effects could occur on NSN and Ramsar sites in combination with other plans and projects.
H11PO: Residential Establishments, Including Specialist, older persons housing and purpose-built student and key-worker accommodation	Possible LSE.	No responses.	H12PU: Residential Establishments, Including Specialist, older persons housing and purpose-built student and key-worker accommodation	No policy changes.	Dependent on the location of specialist and older persons housing, likely significant effects could occur on NSN and Ramsar sites.	Dependent on the location of specialist and older persons housing, likely significant effects could occur on NSN and Ramsar sites in combination with other plans and projects.
H12PO: Conversion and subdivision of buildings to Residential uses within settlement boundaries including large HMOs	Possible LSE.	No responses.	H13PU: Conversion and subdivision of buildings to Residential uses including large HMOs	No policy changes.	Dependent on the location of subdivided buildings, likely significant effects could occur on NSN and Ramsar sites, in particular through pathways like recreational pressure although in reality the scale of development is likely to be small	Dependent on the location of subdivided buildings, likely significant effects could occur on NSN and Ramsar sites, in particular through pathways like

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
						recreational pressure, in combination with other plans and projects.
H13PO: Domestic Extensions and Alterations	Possible LSE.	No responses.	H14PU: Domestic Extensions and Alterations	No policy changes.	This policy could lead to likely significant effects on NSN and Ramsar sites, although in reality the scale of development is likely to be small.	This policy could lead to likely significant effects on NSN and Ramsar sites, in combination with other plans and projects.
H14PO: Rural Exception Sites	Possible LSE.	Natural England – No adverse impact on biodiversity should be included.	H15PU: Rural Exception Sites	The policy has been amended to confirm that developments must not result in a significant adverse impact on biodiversity.	In reality the scale of development is likely to be small, and the commitment to no adverse impacts on biodiversity means that no likely significant effects will occur on NSN and Ramsar sites.	In reality the scale of development is likely to be small, and the commitment to no adverse impacts on biodiversity means that no likely significant effects will occur on NSN and Ramsar sites.
H15PO: Essential Dwellings for Rural Workers	Possible LSE.	Natural England – No adverse impact on biodiversity should be included.	H16PU: Essential Dwellings for Rural Workers	The policy has been amended to confirm that developments must satisfy planning requirements relating to biodiversity.	In reality the scale of development is likely to be small, and the commitment to protection of biodiversity means that no likely significant effects will occur on NSN and Ramsar sites.	In reality the scale of development is likely to be small, and the commitment to protection of biodiversity means that no likely significant effects

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
						will occur on NSN and Ramsar sites.
H16PO: Conversion of Rural Dwellings to Residential Use	Possible LSE.	No HRA specific responses.	H17PU: Conversion of Rural Buildings to Residential Use	The policy has been amended, but no changes that would affect NSN or Ramsar sites.	Dependent on the location of converted dwellings, likely significant effects could occur on NSN and Ramsar sites, although in reality the scale of development is likely to be small.	Dependent on the location of converted dwellings, likely significant effects could occur on NSN and Ramsar sites, although in reality the scale of development is likely to be small.
H17PO: Replacement Dwellings outside Settlement Boundaries	Possible LSE.	No responses.	H18PU: Replacement Dwellings outside Settlement Boundaries	The policy has been amended, but no changes that would affect NSN or Ramsar sites.	Dependent on the location of replacement dwellings, likely significant effects could occur on NSN and Ramsar sites, although in reality the scale of development is likely to be small.	Dependent on the location of replacement dwellings, likely significant effects could occur on NSN and Ramsar sites, in combination with other plans and projects.
H18PO: Beach Bungalows	No LSE.	No responses.	H19PU: Beach Bungalows	No policy changes.	This policy does not include provision for new development or increased occupancy of existing residential development and therefore LSE on NSN and Ramsar sites can be screened out.	This policy does not include provision for new development or increased occupancy of existing residential development and therefore LSE on NSN and Ramsar

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
						sites can be screened out.
H19PO: Removal of Occupancy Conditions	No LSE.	No responses.	H20PU: Removal of Occupancy Conditions	No policy changes.	This policy does not include provision for new development or increased occupancy of existing residential development and therefore LSE on NSN and Ramsar sites can be screened out.	This policy does not include provision for new development or increased occupancy of existing residential development and therefore LSE on NSN and Ramsar sites can be screened out.
H20PO: Residential Caravans	No LSE.	No responses.	H21PU: Residential Caravans	Policy has been amended to state that the siting of a caravan must not result in adverse impacts on biodiversity.	The provision of residential caravans will be only in exceptional circumstances and on a temporary basis and therefore it is possible to conclude that LSE on NSN and Ramsar sites can be screened out.	The provision of residential caravans will be only in exceptional circumstances and on a temporary basis and therefore it is possible to conclude that LSE on NSN and Ramsar sites can be screened out.
---	---	---	SC1PU: Health and Well-being	The Council will promote and support health and well-being in the borough by supporting new development that:  Delivers high quality, safe environments	The policy does not lead to LSE on NSN or Ramsar sites as it only links to potential pathways of impact where it supports other policies within the Plan.	The policy does not lead to LSE on NSN or Ramsar sites as it only links to potential pathways of impact where it supports other

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
				<p>Enhances our natural environment, through improved air and water quality</p> <p>Promotes active travel</p> <p>Protects or delivers green infrastructure, open spaces, sports, cultural and community facilities or seek developer contributions for such facilities</p> <p>Support access to open spaces and the countryside</p> <p>Improves health, social and cultural well-being</p> <p>Creates spaces for food growing</p> <p>Opens up educational facilities for community use and securing such use through Community Use Agreements where appropriate</p> <p>Producing a Health Impact Assessment and Equalities Impact Assessment to support the Local Plan which identifies the impacts of the policies within it on health and inequality</p> <p>Implementing the policies within the Local Plan to help deliver high quality, safe developments and enhance our natural environment, improving air and water quality</p> <p>Implementing the policies within the Local Plan that promote active travel and protect or deliver new open spaces, sports, cultural and community facilities</p> <p>Implementing policies within the Local Plan that support access to open spaces and the countryside</p>	<p>The policy is supportive of enhancements to the natural environment, and to improving air quality and water quality.</p> <p>The policy supports access to the countryside, which could include NSN and Ramsar sites or their supporting habitats, but does not provide a mechanism, merely support for other policies.</p>	<p>policies within the Plan.</p> <p>The policy is supportive of enhancements to the natural environment, and to improving air quality and water quality.</p> <p>The policy supports access to the countryside, which could include NSN and Ramsar sites or their supporting habitats, but does not provide a mechanism, merely support for other policies.</p>

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
				<p>Seeking developer contributions where appropriate towards new or improved sports, recreational and community facilities</p> <p>Supporting local strategies to improve health, social and cultural well-being</p> <p>Supporting local communities to create spaces for food growing</p> <p>Supporting the opening up of educational facilities for community use and securing such use through Community Use Agreements where appropriate</p> <p>Contributing to the creation of mixed communities through new or improved developments that are located in areas with access to key services to reduce social isolation and create community resilience.</p>		
H21PO: Sporting, Leisure and cultural Facilities (excluding playing pitches)	Possible LSE.	No HRA specific responses.	SC2PU: Sporting, Leisure and cultural Facilities (excluding playing pitches)	The policy now states that new development must ensure no harm to biodiversity conservation interests.	<p>Dependent on site location, leisure facilities could have LSE on NSN and Ramsar sites through pathways of impact, in particular through disturbance if near to NSN and Ramsar sites or loss of supporting habitats.</p> <p>However the policy commits to avoidance of harm to biodiversity.</p>	<p>Dependent on site location, leisure facilities could have LSE on NSN and Ramsar sites through pathways of impact, in particular through disturbance if near to NSN and Ramsar sites or loss of supporting habitats.</p> <p>However the policy commits to</p>

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
						avoidance of harm to biodiversity.
H22PO: Playing Pitches	Possible LSE.	No responses.	SC3PU: Playing Fields and Pitches	Policy has been amended and protection of biodiversity has been removed.	Dependent on site location, new playing pitches could have LSE on NSN and Ramsar sites through pathways of impact, in particular through disturbance if near to NSN and Ramsar sites or loss of supporting habitats.	Dependent on site location, new playing pitches could have LSE on NSN and Ramsar sites through pathways of impact, in particular through disturbance if near to NSN and Ramsar sites or loss of supporting habitats.
---	---	---	SC4PU: Impact of new development on sporting facilities	<p>New development must not prejudice the use of existing sports facilities within the vicinity of the development site. Potential impacts such as ball strike, noise and disturbance, impacts upon parking and access must be considered at an early stage when drawing up proposals to avoid or minimise complaints from future occupiers of the new development.</p> <p>Where potential harm is identified, mitigation measures must be agreed with the Council and Sport England. This may be in the form of acoustic fencing, landscaped bunds, ball strike zones etc and the exact measures will be dependent upon the specific development.</p> <p>Where ball strike zones are required opportunities should be taken to create multi-purpose spaces</p>	No LSE.	No LSE.

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
				where appropriate which can act as spaces for biodiversity, drainage areas etc.		
H23PO: Community Facilities	Possible LSE.	No HRA specific responses.	SC5PU: Community and Cultural Facilities	The policy now states that new development must ensure no harm to biodiversity conservation interests.	Dependent on site location, new community facilities could have LSE on NSN and Ramsar sites through pathways of impact, in particular loss of supporting habitats.  However the policy commits to avoidance of harm to biodiversity.	Dependent on site location, new community facilities could have LSE on NSN and Ramsar sites through pathways of impact, in particular loss of supporting habitats.  However the policy commits to avoidance of harm to biodiversity.
N1PO Conserving and enhancing biodiversity and geodiversity	No LSE.	Natural England – Increased weighting of wording suggested.	N1PU: Conserving and enhancing biodiversity and geodiversity	Policy now states that:  <i>“Potential harmful impacts of any development upon biodiversity and geodiversity <b>must</b> be identified and considered at the earliest stage”</i>  Functionally linked land in relation to NSN and Ramsar sites is mentioned as requiring consideration where a plan or project requires IROPI.	No LSE as this policy seeks to protect sites of biodiversity value, including specific reference to NSN and Ramsar sites.	No LSE as this policy seeks to protect sites of biodiversity value, including specific reference to NSN and Ramsar sites.
N3PO: Local Nature Recovery Networks	No LSE.	No HRA specific responses.	N2PU: Local Nature Recovery Networks	No policy changes.	No LSE, this policy seeks to protect biodiversity.	No LSE, this policy seeks to protect biodiversity.
N2PO: Biodiversity Net Gain	No LSE.	No HRA specific responses.	N3PU: Biodiversity Net Gain	Policy amended but no changes that would affect NSN or Ramsar sites.	No LSE, this policy is positive in terms of enhancement of biodiversity.	No LSE, this policy is positive in terms of biodiversity.

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
						enhancement of biodiversity.
N4PO: Marine Planning	No LSE.	<p>Natural England – ‘Giving consideration’ to the Marine Plan does not sufficiently account for impacts to the marine environment and projects will need to demonstrate compliance with relevant environmental legislation.</p> <p>Marine Management Organisation –</p> <p>We recommend that the document contains a reference to the duty to co-operate with the Marine Management Organisation and that the draft North West</p>	N4PU: Marine Planning	No policy changes.	<p>The North West Marine Plan is currently only in Draft form, so does not yet have adopted status. The Draft does include policies that in terms of protection of marine biodiversity state that ‘Proposals that cannot, avoid, minimise and mitigate for significant adverse impacts will not be supported.’</p> <p>The North West Marine Plan does not specifically reference protection of NSN and Ramsar sites.</p> <p>The HRA of Marine Plans, including for the North West concluded that:</p> <p>‘it is considered that a policy framework exists that will ensure no adverse effects on the integrity of European sites arise in practice on any European sites, even though (by design) insufficient detail exists in the plans to enable individual proposals to be assessed against specific European sites or project-specific mitigation measures</p>	<p>The policy has been assessed as being effectively neutral as it neither promotes development within the marine environment, nor affords particular protection to NSN and Ramsar sites. Therefore in combination with other plans and project it will remain neutral and no LSE will result.</p>

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
		Marine Plan is now a document for material consideration.			<p>to be discussed. This is entirely in line with advice from the European Court of Justice regarding the 'tiering' of HRAs where there are multiple levels of plan-making. It is however essential that individual projects and plans within the marine environment are subject to HRA such that the intentions of the protective policy framework are delivered in practice.</p> <p>It should be noted, however, that this conclusion for the marine plans does not prejudice any conclusions for individual projects that may come forward. For some schemes the opportunities to mitigate adverse effects will potentially be very limited (as Natural England has already flagged for wind farm proposals in the southern North Sea for example). Moreover, a series of rulings from the European Court of Justice have emphasised that even small amounts of permanent loss of qualifying habitat within a European site could constitute an adverse effect on integrity.</p>	

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
					<p>Therefore, the mitigation hierarchy must be followed (avoid, then mitigate) and scheme proponents should engage at a suitably early stage with the Marine Management Organisation and other stakeholders such as Natural England to ensure that the deliverability of their scheme is examined at an early stage.'</p> <p>Therefore, as the policy indicates that consideration will be given to the North West Marine Plan, 'unless material considerations indicate otherwise' it is concluded that this policy, whilst not providing protection of NSN and Ramsar sites, will not lead to LSE on NSN and Ramsar sites.</p>	
---	---	---	N5PU: Protection of watercourses	<i>"New development must seek to protect or improve the quality of surface and groundwater water resources, including designated coastal Bathing Waters and Shellfish Waters downstream. Proposals should follow the hierarchy for wastewater treatment with foul drainage connected to mains sewer wherever possible. New development should not be operational or occupied until such time as adequate waste water infrastructure has been provided."</i>	The policy is positive in seeking to protect water resources and water quality, which are key aspects of favourable conservation status of NSN and Ramsar sites considered within this HRA.	The policy is positive in seeking to protect water resources and water quality, which are key aspects of favourable conservation status of NSN and Ramsar

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
				<p><i>The possibility of contamination from former uses on any application site and its effects on the water environment and human health needs to be considered and remediated where it is present. Proposals will be required to support the objectives of the Water Framework Directive, including the objectives for Protected Areas (such as Bathing Waters and Shellfish Waters) as set out in the North West River Basin Management Plan.</i></p> <p><i>New development should ensure there is sufficient water resource available to meet current and future needs, without putting the environment at risk. Wherever possible development should include water efficiency and saving measures."</i></p>		sites considered within this HRA.
N5PO: Landscape Protection	No LSE.	No HRA specific responses.	N6PU: Landscape Protection	Policy amended but no changes that would affect NSN or Ramsar sites.	No LSE, this is a protective policy, but does not consider biodiversity directly.	No LSE, this is a protective policy, but does not consider biodiversity directly.
---	---	---	N7PU: St. Bees and Whitehaven Heritage Coast	<i>"New development within the vicinity of the heritage coast must conserve, protect and enhance the heritage coast and its setting and take opportunities to encourage the public to enjoy and understand the area by improving public access and interpretation where possible. Developers should demonstrate that they have taken into consideration the features that contribute to the special character of the area and the importance of its conservation.</i>	No LSE, this is a protective policy, but does not consider biodiversity directly.	No LSE, this is a protective policy, but does not consider biodiversity directly.

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
				<i>Major development within the Heritage Coast is unlikely to be appropriate unless it is compatible with its special character and will only be permitted in exceptional circumstances."</i>		
N6PO: The Undeveloped Coast	No LSE.	Natural England –  Could be strengthened to commit to avoidance or mitigation needed for NSN or Ramsar sites.	N8PU: The Undeveloped Coast	No policy changes.	This policy does include the potential for supporting energy generating developments but balances this against the need to avoid, mitigate or compensate for negative impacts on biodiversity. In so doing, the policy does not have LSE on NSN and Ramsar sites as proposals will need to undergo HRA where LSE on NSN and Ramsar sites cannot be scoped out	This policy does include the potential for supporting energy generating developments but balances this against the need to avoid, mitigate or compensate for negative impacts on biodiversity. In so doing, the policy does not have LSE on NSN and Ramsar sites as proposals will need to undergo HRA where LSE on NSN and Ramsar sites cannot be scoped out.
---	---	---	N9PU: Green Infrastructure	<i>"A comprehensive, high quality network of green infrastructure will be identified through a Green Infrastructure Strategy for the Copeland Local Plan Area. This network will connect our towns and villages to the more rural parts of the borough and the coastline and will be formed of a variety of GI types including open countryside, green wedges, protected green spaces, local green spaces, rivers,</i>	No LSE, this is a protective policy, but does not consider NSN or Ramsar sites directly.	No LSE, this is a protective policy, but does not consider NSN or Ramsar sites directly.

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
				<p><i>ponds, grass verges, woodlands and trees, private gardens, green walls and green roofs.</i></p> <p><i>The amount of green infrastructure on the development site should be maximised and developers should take opportunities to create new connections, expand networks and enhance existing green infrastructure to support the movement of plants and animals. Green infrastructure should be multi-functional where possible and should be considered at the start of the design process"</i></p>		
N7PO: Green Wedges	No LSE.	No responses.	N10PU: Green Wedges	No policy changes.	No LSE.	No LSE.
N8PO: Protected Green Spaces	No LSE.	No HRA specific responses.	N11PU: Protected Green Spaces	No policy changes.	No LSE as although pathways of impact could arise from certain types of proposals (e.g. increased recreational pressure), development will only be permitted in exceptional circumstances and the protected open spaces in question are unlikely to form part of NSN and Ramsar sites, or key areas of supporting habitat.	No LSE as although pathways of impact could arise from certain types of proposals (e.g. increased recreational pressure), development will only be permitted in exceptional circumstances and the protected open spaces in question are unlikely to form part of NSN and Ramsar sites, or key areas of supporting habitat.

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
N9PO: Local Green Spaces	No LSE.	No HRA specific responses.	N12PU: Local Green Spaces	No policy changes.	No LSE as although pathways of impact could arise from certain types of proposals (e.g. increased recreational pressure), development will only be permitted in exceptional circumstances and the local green spaces in question are unlikely to form part of NSN and Ramsar sites, or key areas of supporting habitat.	No LSE as although pathways of impact could arise from certain types of proposals (e.g. increased recreational pressure), development will only be permitted in exceptional circumstances and the local green spaces in question are unlikely to form part of NSN and Ramsar sites, or key areas of supporting habitat.
N10PO: Woodlands and Trees	No LSE.	No HRA specific responses.	N13PU: Woodlands, Trees and Hedgerows	Minor amendments but no changes that would affect NSN or Ramsar sites.	NSN and Ramsar sites within Copeland Borough are not designated for woodland habitats or species. Therefore, effects on NSN and Ramsar sites are unlikely.	NSN and Ramsar sites within Copeland Borough are not designated for woodland habitats or species. Therefore, effects on NSN and Ramsar sites are unlikely.
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Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
				<i>councils or community groups. Spaces must not have a detrimental impact upon the street-scene through inappropriate fencing or paraphernalia and adequate levels of parking should be available in close proximity to the site."</i>		
BE1PO: Heritage Assets	No LSE.	No responses.	BE1PU: Heritage Assets	Policy amended but no changes that would affect NSN or Ramsar sites.	No LSE arising from heritage related policy.	No LSE arising from heritage related policy in combination with any other plans or projects.
BE2PO: Designated Heritage Assets	No LSE.	No responses.	BE2PU: Designated Heritage Assets	Policy amended but no changes that would affect NSN or Ramsar sites.	No LSE arising from heritage related policy.	No LSE arising from heritage related policy in combination with any other plans or projects.
BE3PO: Archaeology	No LSE.	No responses.	BE3PU: Archaeology	Policy amended but no changes that would affect NSN or Ramsar sites.	No LSE arising from heritage related policy.	No LSE arising from heritage related policy in combination with any other plans or projects.
BE4PO: Non-designated Heritage Assets	No LSE.	No responses.	BE4PU: Non-designated Heritage Assets	Policy amended but no changes that would affect NSN or Ramsar sites.	No LSE arising from heritage related policy.	No LSE arising from heritage related policy in combination with any other plans or projects.
R11PO: Shopfronts	No LSE.	No responses.	BE5PU: Shopfronts	Minor amendments but no changes that would affect NSN or Ramsar sites.	This policy is concerned with design and visual appearance	This policy is concerned with

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
					of existing developments and thus has no LSE on NSN and Ramsar sites.	design and visual appearance of existing developments and thus has no LSE on NSN and Ramsar sites.
H24PO: Advertisements	No LSE.	No responses.	BE6PU: Advertisements	No policy changes.	No LSE on NSN and Ramsar sites.	No LSE on NSN and Ramsar sites.
CO1PO: Telecommunications and Digital Connectivity	No LSE.	No responses.	CO1PU: Telecommunications and Digital Connectivity	No policy changes.	No LSE. Although there could be a theoretical risk of adverse effects on NSN and Ramsar sites through construction of telecommunications infrastructure (e.g. cabling), the policy commits to safeguarding of sites of biodiversity value.	No LSE. Although there could be a theoretical risk of adverse effects on NSN and Ramsar sites through construction of telecommunication s infrastructure (e.g. cabling), the policy commits to safeguarding of sites of biodiversity value.
CO2PO: Priorities for improving connectivity within Copeland	Possible LSE.	Natural England – Air quality aspects of policy need strengthening.  Policy should outline avoidance and mitigation	CO2PU: Priorities for improving transport networks within Copeland	Only amendment to the policy is to add that development that is in accordance with policy N1PU and DS11PU also will be supported.  However, these two linked policies seek to protect biodiversity and avoid reductions in air quality respectively.  This is positive, however the wording of the addition to the policy still allows the identified	Whilst safeguarding of land does not lead to likely significant effects on NSN and Ramsar sites, allocation of transport schemes has the potential to. In particular, transport schemes have the potential to affect NSN and Ramsar sites through the pathways of reduced air	Effects on NSN and Ramsar sites that could arise from this policy may be significant when considered in combination with other plans and projects.

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
		needed at project-level.		transport schemes to be supported without adherence to these policies, as the wording as applied appears to support schemes over and above those identified.	<p>quality and potentially reduced water quality, and increased recreational pressure, as well as possible loss of supporting habitats in certain situations.</p> <p>As the policy indicates that it is not restricted to the listed schemes, all NSN and Ramsar sites within (and potentially beyond) the Borough boundary could be affected, though it is anticipated that transport schemes themselves would seek to alleviate issues with traffic flow and air quality and thus sites beyond the Borough boundaries are less likely to be affected.</p> <p>Of the transport schemes listed, those with the greatest potential for effects on NSN and Ramsar sites within Copeland, would be:</p> <ul style="list-style-type: none"> <li>• A595 – Morecambe Bay and Duddon Estuaries SPA; Drigg Coast SAC; Solway Firth SPA</li> <li>• Rail works – as A595 plus</li> </ul>	

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
					<p>Morecambe Bay SAC; Duddon Estuary Ramsar.</p> <p>The improvements to cycle and walking networks have potential to affect sensitive NSN and Ramsar sites within the Borough through increased recreational pressure – dependent on location. NSN and Ramsar sites within Copeland, including Morecambe Bay SAC and Ramsar, Morecambe Bay and Duddon Estuary SPA and Duddon Estuary Ramsar, are vulnerable to increased recreational pressure, and therefore the location of new development is important in avoiding increased pressure on these sites.</p>	
CO3PO: Priorities for improving transport links to and from the Borough	No LSE.	<p>Natural England – Air quality aspects of policy need strengthening.</p> <p>Policy should outline avoidance and mitigation</p>	CO3PU: Priorities for improving transport links to and from the Borough	Minor amendments but no changes that would affect NSN or Ramsar sites.	Transport schemes have the potential to affect NSN and Ramsar sites through the pathways of reduced air quality and potentially reduced water quality, as well as possible loss of supporting habitats in certain situations.	The policy does state that it will be a requirement that ‘environmental and social impacts associated with development are considered and necessary mitigation

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
		needed at project-level.			<p>Given the road and rail network existing and the topography of Copeland Borough it is highly likely that the same NSN and Ramsar sites as cited above for policy C1PO would be most likely to be vulnerable to LSE.</p> <p>The policy does state that it will be a requirement that 'environmental and social impacts associated with development are considered and necessary mitigation measures put into place'.</p> <p>This would include protection of NSN and Ramsar sites.</p> <p>Therefore the policy itself will not lead to LSE on NSN and Ramsar sites, but the enactment of the policy at Housing allocations, employment sites and draft opportunity areas or project-specific level will require consideration through HRA.</p>	<p>measures put into place'.</p> <p>This would include protection of NSN and Ramsar sites.</p> <p>Therefore the policy itself will not lead to LSE on NSN and Ramsar sites, in combination with other plans and projects but the enactment of the policy at Housing allocations, employment sites and draft opportunity areas or project-specific level will require consideration through HRA.</p>

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
CO4PO: Sustainable Travel	No LSE.	No responses.	CO4PU: Sustainable Travel	Policy has been amended but no changes that would affect NSN or Ramsar sites.	<p>There is no LSE on NSN and Ramsar sites arising from this policy as sustainable modes of transport are less likely to result in reductions in air quality than car and road freight movements and the policy is concerned with encouraging sustainable travel associated with new developments, rather than delivery of new transport schemes per se.</p> <p>The policy also includes the need for Transport Assessments and Travel Plans where substantial traffic movements are likely and effects on NSN and Ramsar sites should be assessed as part of this through the HRA process for specific projects.</p> <p>Although the policy promotes connectivity to walking and cycling routes, which in turn can lead to increased recreational pressure on NSN and Ramsar sites, the policy does not in itself encourage increased walking and cycling movements, merely access to such opportunities.</p>	<p>There is no LSE on NSN and Ramsar sites arising from this policy in combination with other plans and projects.</p> <p>The policy is concerned with encouraging sustainable travel associated with new developments, rather than delivery of new transport schemes per se.</p> <p>The policy also includes the need for Transport Assessments and Travel Plans where substantial traffic movements are likely and effects on NSN and Ramsar sites should be assessed as part of this through the HRA process for specific projects and include in combination assessment.</p>

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
						Although the policy promotes connectivity to walking and cycling routes, which in turn can lead to increased recreational pressure on NSN and Ramsar sites, the policy does not in itself encourage increased walking and cycling movements, merely access to such opportunities.
CO5PO: Transport Hierarchy	No LSE.	No responses.	CO5PU: Transport Hierarchy	No policy changes.	<p>No LSE as this policy promotes a hierarchy of transport modes relating to new developments, rather than delivery of new transport schemes per se.</p> <p>The hierarchy is such that beneficial effects relating to air quality across the Borough should be anticipated.</p>	<p>No LSE as this policy promotes a hierarchy of transport modes relating to new developments, rather than delivery of new transport schemes per se.</p> <p>The hierarchy is such that beneficial effects relating to air quality across the Borough should be anticipated.</p>

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
CO6PO: Countryside Access	Possible LSE.	No responses.	CO6PU: Countryside Access	Policy now commits to no harm to biodiversity conservation interests.	<p>Dependent on location, access to the countryside could lead to pathways of impact on NSN and Ramsar sites, in particular increased recreational pressure and disturbance and reduced air quality through travel.</p> <p>However the policy states that access to the countryside will be supported only where biodiversity conservation interest is not harmed.</p>	<p>Dependent on location, access to the countryside could lead to pathways of impact on NSN and Ramsar sites, in particular increased recreational pressure and disturbance and reduced air quality through travel.</p> <p>However the policy states that access to the countryside will be supported only where biodiversity conservation interest is not harmed.</p>
CO7PO: Parking Standards	No LSE	No responses.	CO7PU: Parking Standards and Electric Vehicle Charging Infrastructure	Policy has been amended but no changes that would affect NSN or Ramsar sites.	<p>The location of new park and ride facilities could result in a focal point for traffic and people movements. Dependent on location, LSE on NSN and Ramsar sites is possible through reduced air quality, and disturbance in particular. However, the policy does state that facilities must be located appropriately, which should</p>	<p>In combination with other plans and projects, new park and ride facilities could result in a focal point for traffic and people movements. Dependent on location, LSE on NSN and Ramsar sites is possible</p>

Policy Reference (Preferred Options)	Screening Conclusion (Preferred Options)	Consultee Comments	New Policy	Policy Text Changes	Screening of Policy Changes	Screening (In Combination)
					include consideration of avoidance of effects of NSN and Ramsar sites.	through reduced air quality, and disturbance in particular. However, the policy does state that facilities must be located appropriately, which should include consideration of avoidance of effects of NSN and Ramsar sites.

**Table 3.2: Screening of Housing allocations, employment sites and draft opportunity areas<sup>10</sup> within the Copeland Borough Council Local Plan Preferred Options Document.** Orange shading indicates that an allocation or group of allocations has been screened in as requiring Appropriate Assessment, green shading indicates that they have been screened out. Bold highlighting indicates the pathways of impact that make further Appropriate Assessment necessary. Asterisks indicate that these are sites that form part of a housing allocation in the Publication Draft Local Plan in full or in part.

Cleator Moor
<p><b>Summary:</b></p> <p>The following pathways of impact will not apply to Cleator Moor housing allocations <u>either alone or in combination with other plans and projects</u>:</p> <ul style="list-style-type: none"> <li>• Water resources – United Utilities Final Water Resource Management Plan 2019 indicates a projected water surplus from 2020-2040, inclusive of projected population growth.</li> <li>• Coastal squeeze – no allocations occur between coastal designated sites and existing built development.</li> <li>• Recreational pressure - The River Ehen SAC. Trampling, disturbance and pollution incidents are cited in the Site Improvement Plan (SIP) for the site as the main concerns. It is considered unlikely however, that occupants of new dwellings would cause LSE on the designated features of the SAC (freshwater pearl mussel and Atlantic salmon). The river does not appear to be formally accessible for walking alongside it via public footpaths. Recreational pressure on the River Ehen SAC is possible in combination with other allocations proposed for Cleator Moor and Egremont. However, this is considered unlikely to be significant given the limited accessibility to the SAC along its length.</li> <li>• Recreational pressure - Drigg Coast SAC and Morecambe Bay and Duddon Estuaries SPA. These lie 15-16km from the sites, a distance over which LSE is unlikely given that there are coastal areas suitable for recreation much closer.</li> <li>• Water quality – United Utilities have not raised any concerns with allocations at Cleator Moor in respect of waste water treatment works capacity to adequately deal with waste water produced by all new development within Cleator Moor and surrounding catchment.</li> </ul> <p>The following pathways of impact will not apply to Cleator Moor housing allocations when considered individually:</p> <ul style="list-style-type: none"> <li>• Recreational pressure - the Solway Firth SPA. In Copeland, the areas designated for qualifying bird species are almost exclusively offshore, and it is considered unlikely that occupants of new dwellings from individual allocations alone would cause LSE on the designated features of the SPA.</li> <li>• Recreational pressure - The Lake District High Fells SAC. There is no direct access and therefore no LSE from individual Housing allocations, employment sites and draft opportunity areas alone.</li> <li>• Air quality - individual Housing allocations, employment sites and draft opportunity areas are likely to result in an increase in road traffic. The closest NSN and Ramsar site, the River Ehen SAC is not however, considered to be at risk from reduced air quality. No other NSN and Ramsar sites are close enough to be likely to be affected by individual allocations alone.</li> </ul> <p>The following pathways of impact will apply to Cleator Moor housing allocations when considered in combination with other plans and projects and will require Appropriate Assessment:</p> <ul style="list-style-type: none"> <li>• <b>Recreational pressure - the Solway Firth SPA. It is possible that in combination with other proposed development within Copeland and other local authorities within a distance of the Solway Firth SPA over which people are likely to travel for recreation, that LSE could occur in relation to designated bird species.</b></li> </ul>

<sup>10</sup> At August 2020

- **Recreational pressure - The Lake District High Fells SAC.** It is possible that in combination with other proposed development within Copeland and other local authorities within a distance of the SAC over which people are likely to travel for recreation, that LSE could occur.
- **Air quality - In combination with other proposed developments within Copeland and adjacent local authorities, LSE on the Drigg Coast SAC, Morecambe Bay and Duddon Estuary SPA, and River Derwent and Bassenthwaite Lake SAC require further consideration.**

All other pathways of impact for site allocations both alone and in combination with other plans and projects are included within the cells below.

Site Allocation	Site location and indicative yield at 25/ha	Natural England Response	Screening Conclusion (Site Allocation Alone)	Screening Conclusion (In Combination)
HCM3	Former Ehenside School site. 40 dwellings.	Housing allocations for Cleator Moor will require a HRA due to the proximity to the River Ehen SAC.	<p>The site actually lies approximately 250m from the River Ehen SAC rather than 90m. However, urbanisation effects, such as fly tipping are still considered possible.</p> <p>Reduced water quality as a result of polluted run-off from construction and occupation cannot be screened out.</p> <p>The site is in close proximity to built development on three sides, and as such is unlikely to provide supporting habitat for bird species for which any NSN and Ramsar sites are designated .</p>	<p>The site actually lies approximately 250m from the River Ehen SAC rather than 90m. However, urbanisation effects, such as fly tipping are still considered possible.</p> <p>Reduced water quality as a result of polluted run-off from construction and occupation cannot be screened out.</p> <p>No LSE in combination with other plans and projects.</p>
HCM4	Land at Mill Hill. 81 dwellings.	Housing allocations for Cleator Moor will require a HRA due to the proximity to the River Ehen SAC.	<p>The site lies over 2km from the River Ehen SAC, with the main settled area of Cleator Moor in between. No urbanisation effects, such as fly tipping are therefore considered likely.</p> <p>The site is over 2km from the River Ehen SAC, but is in close proximity to the Nor Beck that feeds into the SAC and therefore reduced water quality as a result of polluted run-off cannot be screened out.</p> <p>The site comprises open fields, and as such could provide supporting habitat for bird species for which any NSN and Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.</p>	<p>No in combination effects are likely given this site location.</p> <p>Reduced water quality as a result of polluted run-off from construction and occupation cannot be screened out.</p> <p>The site comprises open fields, and as such could provide supporting habitat for bird species for which any NSN and Ramsar sites are designated.</p>

Site Allocation	Site location and indicative yield at 25/ha	Natural England Response	Screening Conclusion (Site Allocation Alone)	Screening Conclusion (In Combination)
HCM1	Land at Jacktrees Road. 127 dwellings.	Housing allocations for Cleator Moor will require a HRA due to the proximity to the River Ehen SAC.	<p>The site lies approximately 450m from the River Ehen SAC. Urbanisation effects, such as fly tipping are therefore considered possible as the development could generate up to 127 new dwellings.</p> <p>Reduced water quality as a result of polluted run-off from construction and occupation cannot be screened out.</p> <p>The site comprises open fields, and as such could provide supporting habitat for bird species for which any NSN and Ramsar sites are designated, however, on its own a single allocation is unlikely to lead to LSE.</p>	<p>The site lies approximately 450m from the River Ehen SAC. Urbanisation effects, such as fly tipping are therefore considered possible as the development could generate up to 117 new dwellings.</p> <p>Reduced water quality as a result of polluted run-off from construction and occupation cannot be screened out.</p> <p>The site comprises open fields, and as such could provide supporting habitat for bird species for which any NSN and Ramsar sites are designated.</p>
HCM2	Land adjacent to Dent Road Rev a. 96 dwellings.	Housing allocations for Cleator Moor will require a HRA due to the proximity to the River Ehen SAC.	<p>The site lies less than 400m from the River Ehen SAC. Urbanisation effects, such as fly tipping are therefore considered possible, as the development could generate up to 96 new dwellings.</p> <p>Reduced water quality as a result of polluted run-off from construction and occupation cannot be screened out.</p> <p>The site comprises large open fields, and as such could provide supporting habitat for bird species for which any NSN and Ramsar sites are designated, however, on its own a single allocation is unlikely to lead to LSE.</p>	<p>The site lies less than 400m from the River Ehen SAC. Urbanisation effects, such as fly tipping are therefore considered possible, as the development could generate up to 98 new dwellings.</p> <p>Reduced water quality as a result of polluted run-off from construction and occupation cannot be screened out.</p> <p>The site comprises large open fields, and as such could provide supporting habitat for bird species for which any NSN and Ramsar sites are designated.</p>

## Egremont

### Summary:

The following pathways of impact will not apply to Egremont housing allocations either alone or in combination with other plans and projects:

- Water resources – United Utilities Final Water Resource Management Plan 2019 indicates a projected water surplus from 2020-2040, inclusive of projected population growth.
- Coastal squeeze – no allocations occur between coastal designated sites and existing built development.
- Recreational pressure - The River Ehen SAC. Trampling, disturbance and pollution incidents are cited in the SIP for the site as the main concerns. It is considered unlikely however, that occupants of new dwellings would cause LSE on the designated features of the SAC (freshwater pearl mussel and Atlantic salmon). The river does not appear to be formally accessible for walking alongside it via public footpaths. Recreational pressure on the River Ehen SAC is possible in combination with other allocations proposed for Cleator Moor and Egremont. However, this is considered unlikely to be significant given the limited accessibility to the SAC along its length.
- Urbanisation – no Housing allocations, employment sites and draft opportunity areas lie within 1km of any designated site.
- Water quality – United Utilities have not raised any concerns with allocations at Egremont in respect of waste water treatment works capacity to adequately deal with waste water produced by all new development within Egremont and surrounding catchment.

The following pathways of impact will not apply to Egremont housing allocations when considered individually:

- Recreational pressure - the Solway Firth SPA. In Copeland, the areas designated for qualifying bird species are almost exclusively offshore, and it is considered unlikely that occupants of new dwellings from individual allocations alone would cause LSE on the designated features of the SPA.
- Recreational pressure - The Lake District High Fells SAC. There is no direct access and therefore no LSE from individual Housing allocations, employment sites and draft opportunity areas alone.
- Recreational pressure - Drigg Coast SAC and Morecambe Bay and Duddon Estuaries SPA. These lie 10-12km from the sites, a distance over which LSE is unlikely from any given site allocation.
- Air quality - individual Housing allocations, employment sites and draft opportunity areas are likely to result in an increase in road traffic. The closest NSN and Ramsar site, the River Ehen SAC is not however, considered to be at risk from reduced air quality. No other NSN and Ramsar sites are close enough to be likely to be affected by individual allocations alone.

The following pathways of impact will apply to Egremont housing allocations when considered in combination with other plans and projects and will require appropriate assessment:

- Recreational pressure - the Solway Firth SPA. It is possible that in combination with other proposed development within Copeland and other local authorities within a distance of the Solway Firth SPA over which people are likely to travel for recreation, that LSE could occur in relation to designated bird species.
- Recreational pressure - The Lake District High Fells SAC. It is possible that in combination with other proposed development within Copeland and other local authorities within a distance of the SAC over which people are likely to travel for recreation, that LSE could occur.
- Recreational pressure - Drigg Coast SAC and Morecambe Bay and Duddon Estuaries SPA. It is possible that in combination with other proposed development within Copeland and other local authorities within a distance of the SAC and SPA over which people are likely to travel for recreation, that LSE could occur.
- Air quality - In combination with other proposed developments within Copeland and adjacent local authorities, LSE on the Drigg Coast SAC, Morecambe Bay and Duddon Estuary SPA, and River Derwent and Bassenthwaite Lake SAC require further consideration.

All other pathways of impact for site allocations both alone and in combination with other plans and projects are included within the cells below.

Site Allocation	Site location and indicative yield at 25/ha	Natural England Response	Screening Conclusion (Site Allocation Alone)	Screening Conclusion (In Combination)
HEG3	Land to south of Daleview Gardens. 141 dwellings.	No responses.	<p>The site is adjacent to a beck that flows into the River Ehen SAC. Although the confluence is downstream of the SAC, Atlantic salmon are migratory and therefore pollution events downstream could impact the SAC. Reduced water quality as a result of polluted run-off from construction and occupation cannot be screened out.</p> <p>The site comprises open fields, albeit adjacent to existing development, and as such could provide supporting habitat for bird species for which NSN and Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.</p> <p>However, ecological assessment undertaken on-site has confirmed that the site holds negligible potential to support such bird species/ assemblages.</p>	<p>The site is adjacent to a beck that flows into the River Ehen SAC. Although the confluence is downstream of the SAC, Atlantic salmon are migratory and therefore pollution events downstream could impact the SAC. Reduced water quality as a result of polluted run-off from construction and occupation cannot be screened out.</p> <p>The site comprises open fields, albeit adjacent to existing development, and as such could provide supporting habitat for bird species for which NSN and Ramsar sites are designated.</p> <p>However, ecological assessment undertaken on-site has confirmed that the site holds negligible potential to support such bird species/ assemblages.</p>

Site Allocation	Site location and indicative yield at 25/ha	Natural England Response	Screening Conclusion (Site Allocation Alone)	Screening Conclusion (In Combination)
HEG2	Land at Gulley Flatts. 170 dwellings.	No responses.	<p>The site is close enough to the River Ehen that polluted run-off could reach the river. Although the point of impact would be downstream of the SAC, Atlantic salmon are migratory and therefore pollution events downstream could impact the SAC. Reduced water quality as a result of polluted run-off from construction and occupation cannot be screened out.</p> <p>The site comprises open fields, albeit adjacent to existing development, and as such could provide supporting habitat for bird species for which NSN and Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.</p> <p>However, ecological assessment undertaken on-site has confirmed that the site holds negligible potential to support such bird species/ assemblages.</p>	<p>The site is close enough to the River Ehen that polluted run-off could reach the river. Although the point of impact would be downstream of the SAC, Atlantic salmon are migratory and therefore pollution events downstream could impact the SAC. Reduced water quality as a result of polluted run-off from construction and occupation cannot be screened out.</p> <p>The site comprises open fields, albeit adjacent to existing development, and as such could provide supporting habitat for bird species for which NSN and Ramsar sites are designated.</p> <p>However, ecological assessment undertaken on-site has confirmed that the site holds negligible potential to support such bird species/ assemblages.</p>
HEG1	Land north of Ashlea Road. 108 dwellings.	No responses.	<p>The site is far enough from the River Ehen that polluted run-off is unlikely to reach the river.</p> <p>The site includes open fields, albeit adjacent to existing development, and as such could provide supporting habitat for bird species for which NSN and Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.</p> <p>However, ecological assessment undertaken on-site has confirmed that the site holds negligible potential to support such bird species/ assemblages.</p>	<p>The site is far enough from the River Ehen that polluted run-off is unlikely to reach the river.</p> <p>The site includes open fields, albeit adjacent to existing development, and as such could provide supporting habitat for bird species for which NSN and Ramsar sites are designated.</p> <p>However, ecological assessment undertaken on-site has confirmed that the site holds negligible potential to support such bird species/ assemblages.</p>

## Whitehaven

### Summary:

The following pathways of impact will not apply to Whitehaven site allocations either alone or in combination with other plans and projects:

- Water resources – United Utilities Final Water Resource Management Plan 2019 indicates a projected water surplus from 2020-2040, inclusive of projected population growth.
- Urbanisation – no Housing allocations, employment sites and draft opportunity areas lie within 1km of any sensitive designated site.
- Water quality – United Utilities have not raised any concerns with allocations at Whitehaven in respect of waste water treatment works capacity to adequately deal with waste water produced by all new development within Whitehaven and surrounding catchment.

The following pathways of impact will not apply to Whitehaven site allocations when considered individually:

- Recreational pressure - the Solway Firth SPA. In Copeland, the areas designated for qualifying bird species are almost exclusively offshore, and it is considered unlikely that occupants of new dwellings from individual allocations alone would cause LSE on the designated features of the SPA.
- Recreational pressure - The Lake District High Fells SAC. There is no direct access and therefore no LSE from individual Housing allocations, employment sites and draft opportunity areas alone.
- Recreational pressure - Drigg Coast SAC and Morecambe Bay and Duddon Estuaries SPA. These lie 16-20km from the sites, a distance over which LSE is unlikely from any given site allocation.
- Air quality - individual Housing allocations, employment sites and draft opportunity areas are likely to result in an increase in road traffic. The closest NSN and Ramsar site, the Solway Firth SPA is not however, considered to be at risk from reduced air quality. No other NSN and Ramsar sites are close enough to be likely to be affected by individual allocations alone.

The following pathways of impact will apply to Whitehaven site allocations when considered in combination with other plans and projects and will require appropriate assessment:

- Recreational pressure - the Solway Firth SPA. It is possible that in combination with other proposed development within Copeland and other local authorities within a distance of the Solway Firth SPA over which people are likely to travel for recreation, that LSE could occur in relation to designated bird species.
- Recreational pressure - The Lake District High Fells SAC. It is possible that in combination with other proposed development within Copeland and other local authorities within a distance of the SAC over which people are likely to travel for recreation, that LSE could occur.
- Recreational pressure - Drigg Coast SAC and Morecambe Bay and Duddon Estuaries SPA. It is possible that in combination with other proposed development within Copeland and other local authorities within a distance of the SAC and SPA over which people are likely to travel for recreation, that LSE could occur.
- Air quality - In combination with other proposed developments within Copeland and adjacent local authorities, LSE on the Drigg Coast SAC, Morecambe Bay and Duddon Estuary SPA, and River Derwent and Bassenthwaite Lake SAC require further consideration.

All other pathways of impact for site allocations both alone and in combination with other plans and projects are included within the cells below.

Site Allocations	Site location and indicative yield at 25/ha	Natural England Response	Screening Conclusion (Site Allocation Alone)	Screening Conclusion (In Combination)
HWH1	Land at West Cumberland Hospital & Snekyeat Road. 127 dwellings	No responses.	The site is surrounded by existing development and is unlikely to support any species for which NSN and Ramsar sites are designated.	No LSE in combination with other plans and projects.
HWH2	Red Lonning and Harras Moor. 370 dwellings.	No responses.	The site comprises open fields, and as such could provide supporting habitat for bird species for which NSN and Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.	<b>The site comprises open fields, and as such could provide supporting habitat for bird species for which NSN and Ramsar sites are designated.</b>
HWH3	Land at Edge Hill Park (former Marchon car park). 510 dwellings.	No responses.	The site comprises in part open fields, and as such could provide supporting habitat for bird species for which NSN and Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.	<b>The site comprises in part open fields, and as such could provide supporting habitat for bird species for which NSN and Ramsar sites are designated.</b>
HWH5	Former Marchon Site North. 532 dwellings.	No responses.	<p>This site allocation appears to occupy land between the shoreline and existing built development. However, the Solway Firth SPA, that lies approximately 1km north west of the allocation, is designated for qualifying bird species that within Copeland are present offshore, with the designated site boundary offshore, and it is considered unlikely that coastal squeeze will affect this designation.</p> <p>Due to the free-draining nature of the soils, the pathway of reduced water quality through polluted run-off cannot be screened out, however on its own, a single allocation is unlikely to lead to LSE.</p> <p>The site comprises open fields, and as such could provide supporting habitat for bird species for which NSN and Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.</p>	<p>No LSE in combination with other plans and projects.</p> <p><b>Due to the free-draining nature of the soils, the pathway of reduced water quality through polluted run-off cannot be screened out. The pathway of reduced water quality in combination with other plans and projects requires further assessment.</b></p> <p><b>The site comprises open fields, and as such could provide supporting habitat for bird species for which NSN and Ramsar sites are designated.</b></p>

Site Allocations	Site location and indicative yield at 25/ha	Natural England Response	Screening Conclusion (Site Allocation Alone)	Screening Conclusion (In Combination)
HWH4	Land south and west of St. Mary's School. 60 dwellings.	No responses.	<p>This site allocation appears to occupy land between the shoreline and existing built development. However, the Solway Firth SPA, that lies approximately 1km north west of the allocation, is designated for qualifying bird species that within Copeland are present offshore, with the designated site boundary offshore, and it is considered unlikely that coastal squeeze will affect this designation.</p> <p>Due to the free-draining nature of the soils, the pathway of reduced water quality through polluted run-off cannot be screened out, however on its own, a single allocation is unlikely to lead to LSE.</p> <p>The site comprises open fields, and as such could provide supporting habitat for bird species for which NSN and Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.</p>	<p>No LSE in combination with other plans and projects.</p> <p><b>Due to the free-draining nature of the soils, the pathway of reduced water quality through polluted run-off cannot be screened out. The pathway of reduced water quality in combination with other plans and projects requires further assessment.</b></p> <p><b>The site comprises open fields, and as such could provide supporting habitat for bird species for which NSN and Ramsar sites are designated.</b></p>
HWH6	Land south of Waters Edge Close. 35 dwellings.	No responses.	<p>This site allocation appears to occupy land between the shoreline and existing built development. However, the Solway Firth SPA, that lies approximately 1km north west of the allocation, is designated for qualifying bird species that within Copeland are present offshore, with the designated site boundary offshore, and it is considered unlikely that coastal squeeze will affect this designation.</p> <p>Due to the free-draining nature of the soils, the pathway of reduced water quality through polluted run-off cannot be screened out, however on its own, a single allocation is unlikely to lead to LSE.</p> <p>The site comprises open fields, and as such could provide supporting habitat for bird species for which NSN and Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.</p>	<p>No LSE in combination with other plans and projects.</p> <p><b>Due to the free-draining nature of the soils, the pathway of reduced water quality through polluted run-off cannot be screened out. The pathway of reduced water quality in combination with other plans and projects requires further assessment.</b></p> <p><b>The site comprises open fields, and as such could provide supporting habitat for bird species for which NSN and Ramsar sites are designated.</b></p>

## Millom

### Summary:

The following pathways of impact will not apply to Millom site allocations either alone or in combination with other plans and projects:

- Water resources – United Utilities Final Water Resource Management Plan 2019 indicates a projected water surplus from 2020-2040, inclusive of projected population growth.
- Urbanisation – no Housing allocations, employment sites and draft opportunity areas lie within 1km of any sensitive designated site.
- Coastal squeeze – all Housing allocations, employment sites and draft opportunity areas are separated from the designated sites by raised flood defences that would already prohibit landward retreat of habitats.
- Recreational pressure - The Lake District High Fells SAC. There is no direct access and therefore no LSE from individual Housing allocations, employment sites and draft opportunity areas alone and there are numerous other areas of the Lake District more accessible than areas covered by the SAC.
- Recreational pressure - There will also be no LSE on the Solway Firth SPA, due to the distance from Millom.
- Recreational pressure – Subberthwaite, Blawith and Torver low Commons SAC. Although vulnerable to increased recreational pressure, in reality the distance of this site from Millom, and comparative attraction of other closer landscapes mean that a significant effect is unlikely.
- Water quality – United Utilities have not raised any concerns with allocations at Millom in respect of waste water treatment works capacity to adequately deal with waste water produced by all new development within Millom and surrounding catchment.

The following pathways of impact will not apply to Millom site allocations when considered individually:

- Recreational pressure - Drigg Coast SAC. The SAC lies 15-18km from the sites, a distance over which LSE is unlikely from any individual site allocation.
- Recreational pressure – Morecambe Bay SAC, Morecambe Bay and Duddon Estuaries SPA and Duddon Estuary Ramsar. It is unlikely that as a result of any individual allocation, that LSE would occur.
- Air quality - individual Housing allocations, employment sites and draft opportunity areas are likely to result in an increase in road traffic. The closest NSN and Ramsar sites, Morecambe Bay SAC, Duddon Estuary Ramsar and Morecambe Bay and Duddon Estuaries SPA are very large sites and unlikely to be affected to a significant degree by any individual allocation. No other NSN and Ramsar sites are close enough to be likely to be affected by individual allocations alone.

**The following pathways of impact will apply to Millom site allocations when considered in combination with other plans and projects and will require appropriate assessment:**

- **Recreational pressure – Morecambe Bay SAC, Morecambe Bay and Duddon Estuaries SPA and Duddon Estuary Ramsar. It is possible that in combination with other proposed development within Copeland and other local authorities within a distance of the designated sites over which people are likely to travel for recreation, that LSE could occur. It is possible that in combination effects could also occur on the Drigg Coast SAC.**
- **Air quality - In combination with other proposed developments within Copeland and adjacent local authorities, LSE on the Morecambe Bay SAC, Duddon Mosses SAC, Subberthwaite, Blawith and Torver Low Commons SAC, Drigg Coast SAC, Morecambe Bay and Duddon Estuary SPA, Morecambe Bay Ramsar, and Duddon Estuary Ramsar require further consideration.**

All other pathways of impact for site allocations both alone and in combination with other plans and projects are included within the cells below.

Site Allocation	Site location and indicative yield at 25/ha	Natural England Responses	Screening Conclusion (Site Allocation Alone)	Screening Conclusion (In Combination)
HMI1	Land west of Grammerscroft. 107 dwellings.	Housing at Millom will require a HRA to assess recreational impacts on Morecambe Bay and Duddon Estuaries SPA and Duddon Estuary Ramsar.	<p>The site is located to the north of an existing railway line and its location means that run-off to Morecambe Bay SAC, Morecambe Bay and Duddon Estuaries SPA and Duddon Estuary Ramsar is unlikely.</p> <p>The site comprises open fields, and as such could provide supporting habitat for bird species for which NSN and Ramsar sites are designated, however, on its own a single allocation is unlikely to lead to LSE.</p>	<p>No LSE in combination with other plans and projects.</p> <p><b>The site comprises open fields, and as such could provide supporting habitat for bird species for which NSN and Ramsar sites are designated.</b></p>
HMI2	Moor Farm. 195 dwellings.	Housing at Millom will require a HRA to assess recreational impacts on Morecambe Bay and Duddon Estuaries SPA and Duddon Estuary Ramsar.	<p>The site is located between Morecambe Bay SAC, Morecambe Bay and Duddon Estuaries SPA and Duddon Estuary Ramsar, and existing settlements, approximately 400m from the designated sites. Reduced water quality through run-off of surface water could occur over this distance, however in the context of the size of the designated sites, LSE from the allocation alone is unlikely.</p> <p>The site comprises open fields, and as such could provide supporting habitat for bird species for which NSN and Ramsar sites are designated, however, on its own a single allocation is unlikely to lead to LSE.</p>	<p>The potential for reduced water quality in combination with other plans and projects has been considered.</p> <p>However, an on-site ecological assessment has confirmed no connectivity.</p> <p>The site comprises open fields, and as such could provide supporting habitat for bird species for which NSN and Ramsar sites are designated.</p> <p>However, an on-site ecological assessment has confirmed no connectivity.</p>

## Rest of the Borough

### Summary:

The following pathways of impact will not apply to site allocations within the rest of Copeland either alone or in combination with other plans and projects:

- Water resources – United Utilities Final Water Resource Management Plan 2019 indicates a projected water surplus from 2020-2040, inclusive of projected population growth.
- Recreational pressure - The River Ehen SAC. Trampling, disturbance and pollution incidents are cited in the SIP for the site as the main concerns. It is considered unlikely however, that occupants of new dwellings would cause LSE on the designated features of the SAC (freshwater pearl mussel and Atlantic salmon). The river does not appear to be formally accessible for walking alongside it via public footpaths. Recreational pressure on the River Ehen SAC is possible in combination with allocations proposed for Cleator Moor, Egremont and nearby smaller settlements. However, this is considered to be unlikely to be significant given the limited accessibility to the SAC along its length.

The following pathways of impact will not apply to the rest of Copeland site allocations when considered individually:

- Recreational pressure - the Solway Firth SPA. In Copeland, the areas designated for qualifying bird species are almost exclusively offshore, and it is considered unlikely that occupants of new dwellings from individual allocations alone would cause LSE on the designated features of the SPA.
- Recreational pressure - The Lake District High Fells SAC. There is no direct access and therefore no LSE from individual Housing allocations, employment sites and draft opportunity areas alone.
- Recreational pressure – Morecambe Bay SAC, Drigg Coast SAC, Morecambe Bay and Duddon Estuaries SPA and Duddon Estuary Ramsar. It is unlikely that as a result of any individual allocation, that LSE could occur.
- Air quality - individual Housing allocations, employment sites and draft opportunity areas are likely to result in an increase in road traffic. The closest NSN and Ramsar sites are unlikely to be significantly affected by individual allocations alone.

The following pathways of impact will apply to the rest of the borough site allocations when considered in combination with other plans and projects and will require Appropriate Assessment:

- Recreational pressure – the Solway Firth SPA. In combination with development at Cleator Moor, Egremont and Whitehaven, and other local authorities within a distance of the Solway Firth SPA over which people are likely to travel for recreation, development in the rest of Copeland (with the exception of Haverigg and Millom as these are distant) has potential to lead to LSE.
- Recreational pressure - The Lake District High Fells SAC. It is possible that in combination with other proposed development within Copeland and other local authorities within a distance of the SAC over which people are likely to travel for recreation, that LSE could occur.
- Recreational pressure – Morecambe Bay SAC, Morecambe Bay and Duddon Estuaries SPA and Duddon Estuary Ramsar. It is possible that in combination with other proposed development within Millom, and other local authorities within a distance of the designated sites over which people are likely to travel for recreation, development in Haverigg and Drigg has potential to lead to LSE.
- Air quality - In combination with other proposed developments within Millom and adjacent local authorities, development within Haverigg could lead to LSE on the Morecambe Bay SAC, Duddon Mosses SAC, Subberthwaite, Blawith and Torver Low Commons SAC, Drigg Coast SAC, Morecambe Bay and Duddon Estuary SPA, Morecambe Bay Ramsar, and Duddon Estuary Ramsar.
- Air quality - In combination with other proposed developments within Copeland and adjacent local authorities, development within the rest of Copeland (with the exception of Haverigg and Millom) could lead to LSE on the Drigg Coast SAC, Morecambe Bay and Duddon Estuary SPA, and River Derwent and Bassenthwaite Lake SAC.

All other pathways of impact for site allocations both alone and in combination with other plans and projects are included within the cells below.

Site Allocation	Site location and indicative yield at 25/ha	Natural England Responses	Screening Conclusion (Site Allocation Alone)	Screening Conclusion (In Combination)
HAR01	Land east of Arlecdon Road. 37 dwellings.	No responses.	<p>This site is located away from watercourses that appear to drain into the River Derwent and Bassenthwaite Lake SAC, and therefore LSE can be screened out.</p> <p>The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.</p>	<p>No LSE in combination with other plans and projects.</p> <p>The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated.</p> <p>However, an on-site ecological appraisal has determined that there are no pathways of effect linking this site directly or indirectly to any European designated site.</p>
HBE1	Land north of Crofthouse Farm. 46 dwellings.	No responses.	<p><b>The site is close enough to the River Ehen that polluted run-off could reach the river. Although the point of impact would be downstream of the SAC, Atlantic salmon are migratory and therefore pollution events downstream could impact the SAC. Reduced water quality as a result of polluted run-off from construction and occupation cannot be screened out.</b></p> <p>The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.</p> <p>However, an on-site ecological appraisal has determined that it is considered highly unlikely that any SPA qualifying birds would make use of this small field so close to residential property.</p>	<p><b>The site is close enough to the River Ehen that polluted run-off could reach the river. Although the point of impact would be downstream of the SAC, Atlantic salmon are migratory and therefore pollution events downstream could impact the SAC. Reduced water quality as a result of polluted run-off from construction and occupation cannot be screened out.</b></p> <p>The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated.</p> <p>However, an on-site ecological appraisal has determined that it is considered highly unlikely that any SPA qualifying birds would make use of this small field so close to residential property.</p>

Site Allocation	Site location and indicative yield at 25/ha	Natural England Responses	Screening Conclusion (Site Allocation Alone)	Screening Conclusion (In Combination)
HBE2	Land adjacent to Mill Fields. 27 dwellings.	No responses.	<p>The site is close enough to the River Ehen that polluted run-off could reach the river. Although the point of impact would be downstream of the SAC, Atlantic salmon are migratory and therefore pollution events downstream could impact the SAC. Reduced water quality as a result of polluted run-off from construction and occupation cannot be screened out.</p> <p>The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.</p> <p>However, an on-site ecological appraisal has determined that it is considered highly unlikely that any SPA qualifying birds would make use of this small field so close to residential property.</p>	<p>The site is close enough to the River Ehen that polluted run-off could reach the river. Although the point of impact would be downstream of the SAC, Atlantic salmon are migratory and therefore pollution events downstream could impact the SAC. Reduced water quality as a result of polluted run-off from construction and occupation cannot be screened out.</p> <p>The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated.</p> <p>However, an on-site ecological appraisal has determined that it is considered highly unlikely that any SPA qualifying birds would make use of this small field so close to residential property.</p>
HBI1	Land north of Springfield Gardens. 65 dwellings.	No responses.	<p>The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.</p>	<p><b>The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated.</b></p>
HBI2	Land west of Jubilee Gardens. 35 dwellings.	No responses.	<p>The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.</p>	<p><b>The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated.</b></p>
HLO1	Solway Road. 22 dwellings.	No responses.	<p>The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.</p>	<p><b>The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated.</b></p>

Site Allocation	Site location and indicative yield at 25/ha	Natural England Responses	Screening Conclusion (Site Allocation Alone)	Screening Conclusion (In Combination)
HMR2	Adjoining Scalegill Road. 41 dwellings.	No responses.	The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.	<b>The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated.</b>
HMR1	Rear of Social Club. 37 dwellings.	No responses.	<p>The site is located over 600m from the River Keekle and is already separated from the river by built development. It is possible that surface water pathways may exist, but the Keekle adjoins the River Ehen SAC below the confluence at which the SAC is designated, and therefore any pollution events would only occur downstream of the SAC. It is considered extremely unlikely given the distance, connectivity and small scale of the proposed development that impacts on the River Ehen SAC would arise.</p> <p>The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.</p>	<p>No LSE in combination with other plans and projects.</p> <p><b>The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated.</b></p>
HSU1	Land to southwest of Summergrove. 80 dwellings.	No responses.	The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.	<p>The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated.</p> <p>However, an on-site ecological appraisal has determined that there are no pathways of effect linking this site directly or indirectly to any European designated site.</p>
HSB3	Fairladies extension. 30 dwellings.	<p>New allocation.</p> <p>SSSI bird notified features could be assessed within the HRA.</p>	The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.	<b>The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated.</b>

Site Allocation	Site location and indicative yield at 25/ha	Natural England Responses	Screening Conclusion (Site Allocation Alone)	Screening Conclusion (In Combination)
HDH3	Hill Farm, Homrook. 20 dwellings.	<p>New allocation.</p>	<p>Although located close to the Drigg Coast SAC, and Morecambe Bay and Duddon Estuary SPA, the size of these designations and the habitats and species present, mean that urbanisation effects are unlikely to occur.</p> <p>Although this site lies within a few hundred metres of Drigg Coast SAC, and Morecambe Bay and Duddon Estuary SPA, reduced water quality is unlikely to occur as a result of this allocation alone.</p> <p>This site is located adjacent to existing development and open field aspects are small and partially enclosed. The allocation is unlikely to offer supporting habitat for any bird species for which nearby SPAs and Ramsar sites are designated.</p>	<p>No LSE in combination with other plans and projects through the pathway of urbanisation.</p> <p><b>This site lies within a few hundred metres of Drigg Coast SAC, and Morecambe Bay and Duddon Estuary SPA and within proximity of water courses that feed into the designations. Therefore in combination with other plans and projects, reduced water quality cannot be screened out.</b></p> <p>This site is located adjacent to existing development and open field aspects are small and partially enclosed. The allocation is unlikely to offer supporting habitat for any bird species for which nearby SPAs and Ramsar sites are designated.</p>
HDH2	Wray Head, Station Road. 22 dwellings.	<p>No responses.</p> <p>United Utilities have commented that:</p> <p>Accompanied by the north Meadowbrook site, there additional properties is considered significant in comparison to the existing settlement size and the existing wastewater infrastructure that serves it.</p> <p>NB – North Meadowbrook site (39 dwellings) no longer included in the Plan.</p>	<p>Although located close to the Drigg Coast SAC, and Morecambe Bay and Duddon Estuary SPA, the size of these designations and the habitats and species present, mean that urbanisation effects are unlikely to occur.</p> <p>Although this site lies within a few hundred metres of Drigg Coast SAC, and Morecambe Bay and Duddon Estuary SPA, reduced water quality is unlikely to occur as a result of this allocation alone.</p> <p>The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and</p>	<p>No LSE in combination with other plans and projects through the pathway of urbanisation.</p> <p><b>This site lies within a few hundred metres of Drigg Coast SAC, and Morecambe Bay and Duddon Estuary SPA and within proximity of water courses that feed into the designations. Therefore in combination with other plans and projects, reduced water quality cannot be screened out.</b></p> <p><b>The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated.</b></p>

Site Allocation	Site location and indicative yield at 25/ha	Natural England Responses	Screening Conclusion (Site Allocation Alone)	Screening Conclusion (In Combination)
			Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.	
HDI1	Land south of Prospect Works. 30 dwellings.	No responses.	This site is located adjacent to existing development and wooded and therefore is unlikely to offer supporting habitat for any bird species for which nearby SPAs and Ramsar sites are designated.	No LSE with other plans and projects.
HDI2	Land south-west of Rectory Place. 30 dwellings.	No responses.	This site is located adjacent to existing development and therefore is unlikely to offer supporting habitat for any bird species for which nearby SPAs and Ramsar sites are designated.	No LSE with other plans and projects.
HSE3	Town End Farm East. 32 dwellings.	New allocation.	<p>Although located close to the Drigg Coast SAC, and Morecambe Bay and Duddon Estuary SPA, the size of these designations and the habitats and species present, coupled with limited accessibility mean that urbanisation effects are unlikely to occur.</p> <p>The site is largely surrounded by existing development and as such is unlikely to provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated.</p>	<p>Although located close to the Drigg Coast SAC, and Morecambe Bay and Duddon Estuary SPA, the size of these designations and the habitats and species present, coupled with limited accessibility mean that urbanisation effects are unlikely to occur.</p> <p>The site is largely surrounded by existing development and as such is unlikely to provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated.</p>
HSE2	Fairways Extension. 22 dwellings.	No responses.	<p>Although located close to the Drigg Coast SAC, and Morecambe Bay and Duddon Estuary SPA, the size of these designations and the habitats and species present, coupled with limited accessibility mean that urbanisation effects are unlikely to occur.</p> <p>The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.</p>	<p>No LSE in combination with other plans and projects.</p> <p>The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated.</p> <p>However, an on-site ecological appraisal has determined that there are no pathways of effect linking this site directly or indirectly to any European designated site.</p>

Site Allocation	Site location and indicative yield at 25/ha	Natural England Responses	Screening Conclusion (Site Allocation Alone)	Screening Conclusion (In Combination)
HTH1	Land south of Thornhill. 20 dwellings.	No responses.	The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.	The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated.  However, an on-site ecological appraisal has determined that there are no pathways of effect linking this site directly or indirectly to any European designated site.

## Employment Sites and Opportunity Areas

### Summary:

The following pathways of impact will not apply to employment sites or opportunity areas under consideration either alone or in combination with other plans and projects:

- Water resources – United Utilities Final Water Resource Management Plan 2019 indicates a projected water surplus from 2020-2040, inclusive of projected population growth.
- Recreational pressure – all sensitive NSN and Ramsar sites.
- Urbanisation
- Water quality – United Utilities have not raised any concerns with individual allocations in respect of waste water treatment works capacity to adequately deal with waste water produced.

The following pathways of impact will not apply to employment sites or opportunity areas under consideration when assessed individually:

- Air quality - individual employment sites under consideration are likely to result in an increase in road traffic. The closest NSN and Ramsar sites are unlikely to be significantly affected by individual allocations alone.

The following pathways of impact will apply to employment sites or opportunity areas under consideration when assessed in combination with other plans and projects and will require **Appropriate Assessment**:

- **Air quality - In combination with other proposed developments within adjacent local authorities, development within Millom and Haverigg could lead to LSE on the Morecambe Bay SAC, Duddon Mosses SAC, Subberthwaite, Blawith and Torver Low Commons SAC, Drigg Coast SAC, Morecambe Bay and Duddon Estuary SPA, Morecambe Bay Ramsar, and Duddon Estuary Ramsar and requires further consideration.**
- **Air quality - In combination with other proposed developments within adjacent local authorities, development within the rest of Copeland (with the exception of Haverigg and Millom) could lead to LSE on the Drigg Coast SAC, Morecambe Bay and Duddon Estuary SPA, and River Derwent and Bassenthwaite Lake SAC and requires further consideration.**

All other pathways of impact for individual employment sites and opportunity areas both alone and in combination with other plans and projects are included within the cells below.

Draft Employment Allocation Ref.	Site location and ha	Natural England Responses	Screening Conclusion (Site Allocation Alone)	Screening Conclusion (In Combination)
Cm084	Leconfield Estate plus eastern extension. 21.6ha.	No responses.	<p>The site is over 1km from the River Ehen SAC but is in close proximity to the Nor Beck that feeds into the SAC and therefore reduced water quality as a result of polluted run-off cannot be screened out.</p> <p>Area 3 of the site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.</p>	<p>The site is over 1km from the River Ehen SAC but is in close proximity to the Nor Beck that feeds into the SAC and therefore reduced water quality as a result of polluted run-off cannot be screened out.</p> <p>Area 3 of the site comprises open fields, and as such could provide supporting habitat for bird species for which SPA and Ramsar sites are designated.</p>
Di030	Furnace Row. 3.15ha.	No responses.	<p>The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.</p>	<p>The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated.</p>
Eg055	Bridge End. 12.54ha.	No responses.	<p>The River Ehen is located adjacent and upstream of Egremont is designated for freshwater pearl mussel and Atlantic salmon. As Atlantic salmon are migratory fish any pollution reaching the lower River Ehen could result in deterioration of aquatic habitat, affecting their habitats and food sources, or potentially creating a barrier to migration. The site comprises an existing area of development and as such is unlikely to offer supporting habitat for any bird species for which nearby SPAs and Ramsar sites are designated. Reduced water quality as a result of polluted run-off or pollution events during construction and operation cannot therefore be screened out.</p>	<p>The River Ehen is located adjacent and upstream of Egremont is designated for freshwater pearl mussel and Atlantic salmon. As Atlantic salmon are migratory fish any pollution reaching the lower River Ehen could result in deterioration of aquatic habitat, affecting their habitats and food sources, or potentially creating a barrier to migration. The site comprises an existing area of development and as such is unlikely to offer supporting habitat for any bird species for which nearby SPAs and Ramsar sites are designated. Reduced water quality as a result of polluted run-off or pollution events during construction and operation cannot therefore be screened out.</p>
Fr032	Frizington Road. 1.6ha.	No responses	<p>This site lies close to water courses that feed into the River Ehen SAC. Reduced water quality through surface water run-off or industrial emissions (dependent on type of facility) cannot therefore be ruled out.</p>	<p>This site lies close to water courses that feed into the River Ehen SAC. Reduced water quality through surface water run-off or industrial emissions (dependent on type of</p>

Draft Employment Allocation Ref.	Site location and ha	Natural England Responses	Screening Conclusion (Site Allocation Alone)	Screening Conclusion (In Combination)
			<p>This site is small and therefore is unlikely to offer supporting habitat for any bird species for which nearby SPAs and Ramsar sites are designated.</p>	<p><b>facility) cannot therefore be screened out, in combination with other plans and projects.</b></p> <p>No LSE with other plans and projects.</p>
Mi040/E2	<p>Mainsgate Road Expansion Site. 3.44ha.</p>	<p>No responses.</p>	<p>The site is located 400m from Morecambe Bay and Duddon Estuaries SPA and Duddon Estuary Ramsar. Disturbance of bird species using the SPA and Ramsar is possible over this distance, however, there are intervening features including a quarry and tip, and in the context of the size of the designated sites, LSE is unlikely.</p> <p>The site is located 400m from Morecambe Bay SAC, Morecambe Bay and Duddon Estuaries SPA and Duddon Estuary Ramsar. Dependent on the type of facility built, air quality effects through industrial emissions are possible, however in the context of the size of the designated sites, LSE from the allocation alone is unlikely.</p> <p>The site is located between Morecambe Bay SAC, Morecambe Bay and Duddon Estuaries SPA and Duddon Estuary Ramsar, and existing settlements, approximately 400m from the designated sites. Reduced water quality through run-off of surface water or industrial emissions (dependent on the type of facility) could occur over this distance, however, there are intervening features including a quarry and tip, and in the context of the size of the designated sites, LSE from the allocation alone is unlikely.</p> <p>This site is small and located adjacent to existing development and therefore is unlikely to offer supporting habitat for any bird species for which nearby SPAs and Ramsar sites are designated.</p>	<p>No LSE with other plans and projects.</p> <p><b>The potential for reduced air quality in combination with other plans and projects cannot be screened out.</b></p> <p><b>The potential for reduced water quality in combination with other plans and projects cannot be screened out.</b></p> <p>No LSE with other plans and projects.</p>
ELA5	<p>Haverigg Industrial Estate. 2.65ha.</p>	<p>Not assessed.</p>	<p>The site is located 250m from Morecambe Bay and Duddon Estuaries SPA and Duddon Estuary Ramsar. Disturbance of bird</p>	<p>No LSE with other plans and projects.</p>

Draft Employment Allocation Ref.	Site location and ha	Natural England Responses	Screening Conclusion (Site Allocation Alone)	Screening Conclusion (In Combination)
			<p>species using the SPA and Ramsar is possible over this distance, however, the site is already developed and there are intervening features including a sports ground, and in the context of the size of the designated sites, LSE is unlikely.</p> <p>The site is located 250m from Morecambe Bay SAC, Morecambe Bay and Duddon Estuaries SPA and Duddon Estuary Ramsar. Dependent on the type of facility built, air quality effects through industrial emissions are possible, however in the context of the size of the designated sites, LSE from the allocation alone is unlikely.</p> <p>The site is located 250m from Morecambe Bay SAC, Morecambe Bay and Duddon Estuaries SPA and Duddon Estuary Ramsar. Reduced water quality through run-off of surface water or industrial emissions (dependent on the type of facility) could occur over this distance, and there is a water course to the west of the site that connects to the designated sites. However, in the context of the size of the designated sites, LSE from the allocation alone is unlikely.</p> <p>This site is already developed and therefore is unlikely to offer supporting habitat for any bird species for which nearby SPAs and Ramsar sites are designated.</p>	<p><b>The potential for reduced air quality in combination with other plans and projects cannot be screened out.</b></p> <p><b>The potential for reduced water quality in combination with other plans and projects cannot be screened out.</b></p> <p>No LSE with other plans and projects.</p>
Mp022	Whitehaven Commercial Park. 17.5ha.	Site location in a historically mapped area for hen harrier and should be assessed at both plan and project level.	<b>This site is comprised of small parcels of open land but is within an area historically known to support species for which SPAs are designated, including hen harrier. Given the rarity of this species and the area of habitat to be impact, LSE cannot be screened out.</b>	<b>This site is comprised of small parcels of open land but is within an area historically known to support species for which SPAs are designated, including hen harrier.</b>
Se028/E21	Seascale Rural workshops. 1.41ha.	No responses.	The site is located 1.5km from the Drigg Coast SAC, and Morecambe Bay and Duddon Estuaries SPA. Dependent on the type of facility built, air quality effects through industrial emissions are possible, however in the context of the size of the designated sites, and the fact that the site is downwind of the	No LSE with other plans and projects.

Draft Employment Allocation Ref.	Site location and ha	Natural England Responses	Screening Conclusion (Site Allocation Alone)	Screening Conclusion (In Combination)
			<p>prevailing wind direction, LSE from the allocation is unlikely over this distance.</p> <p>The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.</p>	<p><b>The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated.</b></p>
Wh021	Red Lonning. 1.8ha.	No responses.	This site is small and occupied by existing development and therefore is unlikely to offer supporting habitat for any bird species for which nearby SPAs and Ramsar sites are designated.	No LSE with other plans and projects.
N/A	Haig Enterprise Park. 2.60ha.	No responses.	<p>This site is occupied by existing development and therefore will not contribute to increased risk of coastal squeeze in relation to the Solway Firth SPA that lies 500m to the west.</p> <p>This site is occupied by existing development and therefore is unlikely to contribute to increased risk of disturbance of birds in relation to the Solway Firth SPA that lies 500m to the west.</p> <p>The proposed change of use of the site does not indicate that increased risk of air pollution through emissions would occur at this location affecting the Solway Firth SPA that lies 500m to the west.</p> <p>The proposed change of use of the site does not indicate that increased risk of water pollution through run-off or emissions would occur at this location affecting the Solway Firth SPA that lies 500m to the west.</p> <p>This site is occupied by existing development and therefore is unlikely to offer supporting habitat for any bird species for which nearby SPAs and Ramsar sites are designated.</p>	<p>No LSE with other plans and projects.</p>
N/A	Sneekyeat Industrial Estate. 4.89ha.	No responses.	The site does not appear to have any direct hydrological connectivity to the River Ehen SAC.	No LSE with other plans or projects.

Draft Employment Allocation Ref.	Site location and ha	Natural England Responses	Screening Conclusion (Site Allocation Alone)	Screening Conclusion (In Combination)
N/A	Devonshire Road. 5.87ha.	No responses.	<p>The site is located 50m from Morecambe Bay and Duddon Estuaries SPA and Duddon Estuary Ramsar. Disturbance of bird species using the SPA and Ramsar is possible over this distance, however, there are other adjacent sources of potential disturbance including a waste water treatment works, and in the context of the size of the designated sites, LSE is unlikely.</p> <p>The site is located 50m from Morecambe Bay and Duddon Estuaries SPA and Duddon Estuary Ramsar and 300m from Morecambe Bay SAC. Dependent on the type of facility built, air quality effects through industrial emissions are possible, however in the context of the size of the designated sites, LSE from the allocation alone is unlikely.</p> <p>The site is located between Morecambe Bay SAC, Morecambe Bay and Duddon Estuaries SPA and Duddon Estuary Ramsar, and existing settlements, approximately 50m from the SPA and Ramsar and 300m from the SAC. Reduced water quality through run-off of surface water or industrial emissions (dependent on the type of facility) could occur over this distance, however, in the context of the size of the designated sites, LSE from the allocation alone is unlikely.</p> <p>This site is already developed and therefore is unlikely to offer supporting habitat for any bird species for which nearby SPAs and Ramsar sites are designated.</p>	<p>No LSE with other plans and projects.</p> <p><b>The potential for reduced air quality in combination with other plans and projects cannot be screened out.</b></p> <p><b>The potential for reduced water quality in combination with other plans and projects cannot be screened out.</b></p> <p>No LSE with other plans and projects.</p>

Draft Employment Allocation Ref.	Site location and ha	Natural England Responses	Screening Conclusion (Site Allocation Alone)	Screening Conclusion (In Combination)
N/A	Westlakes Science Park. 61.25ha.	No responses.	The site ultimately drains to the River Ehen SAC to the east and upstream of Egremont is designated for freshwater pearl mussel and Atlantic salmon. Any pollution reaching the SAC could result in deterioration of aquatic habitat. Reduced water quality as a result of polluted run-off or pollution events during construction and operation cannot therefore be screened out.	The site ultimately drains to the River Ehen SAC to the east and upstream of Egremont is designated for freshwater pearl mussel and Atlantic salmon. Any pollution reaching the SAC could result in deterioration of aquatic habitat. Reduced water quality as a result of polluted run-off or pollution events during construction and operation cannot therefore be screened out.

Draft Opportunity Area Ref.	Site location and ha	Natural England Responses	Screening Conclusion (Site Allocation Alone)	Screening Conclusion (In Combination)
E9	East Road Garage. 0.62ha.	No responses.	The River Ehen is located approximately 100m to the east and upstream of Egremont is designated for freshwater pearl mussel and Atlantic salmon. As Atlantic salmon are migratory fish any pollution reaching the lower River Ehen could result in deterioration of aquatic habitat, affecting their habitats and food sources, or potentially creating a barrier to migration. Reduced water quality as a result of polluted run-off or pollution events during construction and operation cannot therefore be screened out.	The River Ehen is located approximately 100m to the east and upstream of Egremont is designated for freshwater pearl mussel and Atlantic salmon. As Atlantic salmon are migratory fish any pollution reaching the lower River Ehen could result in deterioration of aquatic habitat, affecting their habitats and food sources, or potentially creating a barrier to migration. Reduced water quality as a result of polluted run-off or pollution events during construction and operation cannot therefore be screened out.
CI005 – now employment only as an opportunity area	Cleator Mills. 9.84ha.	Requires Appropriate Assessment at both Plan and project level due to proximity to the River Ehen SAC.	The site lies less than 100m from the River Ehen SAC. Water quality effects through run-off are therefore considered possible.  The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and	The site lies less than 100m from the River Ehen SAC. Water quality effects through run-off are therefore considered possible.  The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated.

Draft Opportunity Area Ref.	Site location and ha	Natural England Responses	Screening Conclusion (Site Allocation Alone)	Screening Conclusion (In Combination)
			Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.	
Wp005	Meadow View, Coach Road. 5.68ha.	Not assessed.	<p>There may be indirect connectivity to the Solway Firth SPA, as the site is adjacent to the Pow Beck which reaches the sea at St Bees. However, in the context of the size of the SPA and the fact that operational use of any employment site will be regulated by standard practices to avoid polluting water courses, there is unlikely to be significantly increased pollution flow into the marine habitats in the Solway Firth. Construction activities would be limited in duration and significant impacts on the SPA are unlikely.</p> <p>The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.</p>	<p>There may be indirect connectivity to the Solway Firth SPA, as the site is adjacent to the Pow Beck which reaches the sea at St Bees. However, in the context of the size of the SPA and the fact that operational use of any employment site will be regulated by standard practices to avoid polluting water courses, there is unlikely to be significantly increased pollution flow into the marine habitats in the Solway Firth. Construction activities would be limited in duration and significant impacts on the SPA are unlikely.</p> <p><b>The site comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated.</b></p>
Wt019	Marlborough Street. 0.08ha.	Not assessed.	The site is in close proximity to the harbour at Whitehaven, and in theory, water pollution events could occur during either construction or operation. The Solway Firth SPA lies over 500m to the west, however given the size of the SPA, it is highly unlikely that a small employment site would lead to LSE through reduced water quality.	<b>The site is in close proximity to the harbour at Whitehaven, and in theory, water pollution events could occur during either construction or operation. The Solway Firth SPA lies over 500m to the west, and in combination with other plans and projects it is possible that pollution events could lead to LSE through reduced water quality.</b>
Wt021	Cockpit. 0.24ha.	Not assessed.	This is a small site already comprised of developed ground. No likely pathways of impact on NSN or Ramsar sites exist.	This is a small site already comprised of developed ground. No likely pathways of impact on NSN or Ramsar sites exist.
Wt020	Pow Beck. 11.97ha.	Not assessed.	There may be indirect connectivity to the Solway Firth SPA, as the site is adjacent to the Pow Beck which reaches the sea at St Bees. However, in the context of the size of the SPA and the fact that operational use of any employment site will be regulated by standard practices to avoid polluting water courses, there is	There may be indirect connectivity to the Solway Firth SPA, as the site is adjacent to the Pow Beck which reaches the sea at St Bees. However, in the context of the size of the SPA and the fact that operational use of any employment site will be regulated by standard practices to avoid polluting water

Draft Opportunity Area Ref.	Site location and ha	Natural England Responses	Screening Conclusion (Site Allocation Alone)	Screening Conclusion (In Combination)
			<p>unlikely to be significantly increased pollution flow into the marine habitats in the Solway Firth. Construction activities would be limited in duration and significant impacts on the SPA are unlikely.</p> <p>The site partly comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated however, on its own a single allocation is unlikely to lead to LSE.</p>	<p>courses, there is unlikely to be significantly increased pollution flow into the marine habitats in the Solway Firth. Construction activities would be limited in duration and significant impacts on the SPA are unlikely.</p> <p><b>The site partly comprises open fields, and as such could provide supporting habitat for bird species for which nearby SPA and Ramsar sites are designated.</b></p>
Wt030	Car Park Quay Street East. 0.15ha.	Not assessed.	The site is in close proximity to the harbour at Whitehaven, and in theory, water pollution events could occur during either construction or operation. The Solway Firth SPA lies over 500m to the west, however given the size of the SPA, it is highly unlikely that a small employment site would lead to LSE through reduced water quality.	<b>The site is in close proximity to the harbour at Whitehaven, and in theory, water pollution events could occur during either construction or operation. The Solway Firth SPA lies over 500m to the west, and in combination with other plans and projects it is possible that pollution events could lead to LSE through reduced water quality.</b>
WEOS1	Old Dawnfresh Factory site. 1.23ha.	Not assessed.	<p>The site is in close proximity to the harbour at Whitehaven, and in theory, water pollution events could occur during either construction or operation. The Solway Firth SPA lies over 500m to the west, however given the size of the SPA, it is highly unlikely that a small employment site would lead to LSE through reduced water quality.</p> <p>It is possible that SPA designated species could use the habitats seaward of the site for feeding or roosting, however on its own it is unlikely that one employment site would lead to LSE on the SPA.</p>	<p><b>The site is in close proximity to the harbour at Whitehaven, and in theory, water pollution events could occur during either construction or operation. The Solway Firth SPA lies over 500m to the west, and in combination with other plans and projects it is possible that pollution events could lead to LSE through reduced water quality.</b></p> <p><b>It is possible that SPA designated species could use the habitats seaward of the site for feeding or roosting, and in combination with other plans and projects LSE on the SPA is possible.</b></p>

Draft Opportunity Area Ref.	Site location and ha	Natural England Responses	Screening Conclusion (Site Allocation Alone)	Screening Conclusion (In Combination)
WEOS3	Preston St garage. 0.45ha.	Not assessed.	This is a small site already comprised of developed ground. No likely pathways of impact on NSN or Ramsar sites exist.	This is a small site already comprised of developed ground. No likely pathways of impact on NSN or Ramsar sites exist.
WEOS5	Land at Ginns. 2.98ha.	Not assessed.	<p>There may be indirect connectivity to the Solway Firth SPA, as the site is adjacent to the Pow Beck which reaches the sea at St Bees. However, in the context of the size of the SPA and the fact that operational use of any employment site will be regulated by standard practices to avoid polluting water courses, there is unlikely to be significantly increased pollution flow into the marine habitats in the Solway Firth. Construction activities would be limited in duration and significant impacts on the SPA are unlikely.</p> <p>The site appears to comprise ruderal and scrub vegetation that is unsuitable for species of bird for which the Solway Firth SPA is designated.</p>	No LSE in combination with other plans and projects.
WEOS6	Land at Coach Road. 0.63ha.	Not assessed.	This is a small site already comprised of developed ground. No likely pathways of impact on NSN or Ramsar sites exist.	This is a small site already comprised of developed ground. No likely pathways of impact on NSN or Ramsar sites exist.
WEOS2	Jacksons Timber Yard. 0.47ha.	Not assessed.	This is a small site already comprised of developed ground. No likely pathways of impact on NSN or Ramsar sites exist.	This is a small site already comprised of developed ground. No likely pathways of impact on NSN or Ramsar sites exist.
WEOS4	BT depot. 0.92ha.	Not assessed.	This is a small site already comprised of developed ground. No likely pathways of impact on NSN or Ramsar sites exist.	This is a small site already comprised of developed ground. No likely pathways of impact on NSN or Ramsar sites exist.
Wt013	Former Mark House 0.25ha.	Not assessed.	The site is in close proximity to the harbour at Whitehaven, and in theory, water pollution events could occur during either construction or operation. The Solway Firth SPA lies over 500m to the west, however given the size of the SPA, it is highly unlikely that a small employment site would lead to LSE through reduced water quality.	<b>The site is in close proximity to the harbour at Whitehaven, and in theory, water pollution events could occur during either construction or operation. The Solway Firth SPA lies over 500m to the west, and in combination with other plans and projects it is possible that pollution events could lead to LSE through reduced water quality.</b>
WTC1	Quay Street West. 0.35ha.	Not assessed.	The site is in close proximity to the harbour at Whitehaven, and in theory, water pollution events could occur during either construction or operation. The Solway Firth SPA lies over 500m to	<b>The site is in close proximity to the harbour at Whitehaven, and in theory, water pollution events could occur during either construction or operation. The Solway Firth SPA lies</b>

Draft Opportunity Area Ref.	Site location and ha	Natural England Responses	Screening Conclusion (Site Allocation Alone)	Screening Conclusion (In Combination)
			the west, however given the size of the SPA, it is highly unlikely that a small employment site would lead to LSE through reduced water quality.	over 500m to the west, and in combination with other plans and projects it is possible that pollution events could lead to LSE through reduced water quality.
WTC4	Bransty Row. 0.18ha.	Not assessed.	The site is in close proximity to the harbour at Whitehaven, and in theory, water pollution events could occur during either construction or operation. The Solway Firth SPA lies over 500m to the west, however given the size of the SPA, it is highly unlikely that a small employment site would lead to LSE through reduced water quality.	The site is in close proximity to the harbour at Whitehaven, and in theory, water pollution events could occur during either construction or operation. The Solway Firth SPA lies over 500m to the west, and in combination with other plans and projects it is possible that pollution events could lead to LSE through reduced water quality.
Eg067	Former Red Lion PH Main Street. 0.02ha.	Not assessed.	This is a very small site surrounded by built development and no pathways of impact exist that will lead to LSE on NSN or Ramsar sites.	This is a very small site surrounded by built development and no pathways of impact exist that will lead to LSE on NSN or Ramsar sites.
Eg054	Chapel Street Car Park. 0.39ha.	Not assessed.	The River Ehen is located approximately 150m to the east and upstream of Egremont is designated for freshwater pearl mussel and Atlantic salmon. As Atlantic salmon are migratory fish any pollution reaching the lower River Ehen could result in deterioration of aquatic habitat, affecting their habitats and food sources, or potentially creating a barrier to migration. Reduced water quality as a result of polluted run-off or pollution events during construction and operation cannot therefore be screened out.	The River Ehen is located approximately 150m to the east and upstream of Egremont is designated for freshwater pearl mussel and Atlantic salmon. As Atlantic salmon are migratory fish any pollution reaching the lower River Ehen could result in deterioration of aquatic habitat, affecting their habitats and food sources, or potentially creating a barrier to migration. Reduced water quality as a result of polluted run-off or pollution events during construction and operation cannot therefore be screened out.
Eg064	Council Depot, Chapel Street. 0.26ha.	Not assessed.	The River Ehen is located approximately 150m to the east and upstream of Egremont is designated for freshwater pearl mussel and Atlantic salmon. As Atlantic salmon are migratory fish any pollution reaching the lower River Ehen could result in deterioration of aquatic habitat, affecting their habitats and food sources, or potentially creating a barrier to migration. Reduced water quality as a result of polluted run-off or pollution events during construction and operation cannot therefore be screened out.	The River Ehen is located approximately 150m to the east and upstream of Egremont is designated for freshwater pearl mussel and Atlantic salmon. As Atlantic salmon are migratory fish any pollution reaching the lower River Ehen could result in deterioration of aquatic habitat, affecting their habitats and food sources, or potentially creating a barrier to migration. Reduced water quality as a result of polluted run-off or pollution events during construction and operation cannot therefore be screened out.
EEOS1	Chapel Street. 0.83ha.	Not assessed.	The River Ehen is located approximately 150m to the east and upstream of Egremont is designated for freshwater pearl mussel	The River Ehen is located approximately 150m to the east and upstream of Egremont is designated for freshwater

Draft Opportunity Area Ref.	Site location and ha	Natural England Responses	Screening Conclusion (Site Allocation Alone)	Screening Conclusion (In Combination)
			<p>and Atlantic salmon. As Atlantic salmon are migratory fish any pollution reaching the lower River Ehen could result in deterioration of aquatic habitat, affecting their habitats and food sources, or potentially creating a barrier to migration. Reduced water quality as a result of polluted run-off or pollution events during construction and operation cannot therefore be screened out.</p>	<p>pearl mussel and Atlantic salmon. As Atlantic salmon are migratory fish any pollution reaching the lower River Ehen could result in deterioration of aquatic habitat, affecting their habitats and food sources, or potentially creating a barrier to migration. Reduced water quality as a result of polluted run-off or pollution events during construction and operation cannot therefore be screened out.</p>
Mi042	Millom Pier. 3.09ha.	Not assessed.	<p>The site is located adjacent to Morecambe Bay SAC, Morecambe Bay and Duddon Estuaries SPA and Duddon Estuary Ramsar and between these designations and existing built development. Therefore, further assessment of coastal defence infrastructure and plans is necessary before no LSE from coastal squeeze on these site can be concluded. However, in the context of the size of the designated sites, LSE from a single allocation is unlikely.</p> <p>The site is located adjacent to Morecambe Bay and Duddon Estuaries SPA and Duddon Estuary Ramsar. Disturbance of bird species using the SPA and Ramsar is possible, however in the context of the size of the designated sites, LSE from a single allocation is unlikely.</p> <p>The site is located adjacent to Morecambe Bay SAC, Morecambe Bay and Duddon Estuaries SPA and Duddon Estuary Ramsar. Dependent on the type of facility built, air quality effects through industrial emissions are possible, however in the context of the size of the designated sites, LSE from the allocation alone is unlikely.</p> <p>The site is located between Morecambe Bay SAC, Morecambe Bay and Duddon Estuaries SPA and Duddon Estuary Ramsar, and existing settlements. Reduced water quality through run-off of surface water or industrial emissions (dependent on the type of facility) could occur though in the context of the size of the designated sites, LSE from the allocation alone is unlikely.</p>	<p><b>The site is located adjacent to Morecambe Bay SAC, Morecambe Bay and Duddon Estuaries SPA and Duddon Estuary Ramsar and between these designations and existing built development. Therefore, further assessment of coastal defence infrastructure and plans is necessary before no LSE from coastal squeeze on these site can be concluded.</b></p> <p><b>Disturbance of bird species using the SPA and Ramsar is possible in combination with other plans and projects.</b></p> <p><b>The potential for reduced air quality in combination with other plans and projects cannot be screened out.</b></p> <p><b>The potential for reduced water quality in combination with other plans and projects cannot be screened out.</b></p> <p><b>This site is located adjacent to Morecambe Bay and Duddon Estuaries SPA and Duddon Estuary Ramsar and may offer supporting habitat for any bird species for which the SPAs and Ramsar sites are designated.</b></p>

Draft Opportunity Area Ref.	Site location and ha	Natural England Responses	Screening Conclusion (Site Allocation Alone)	Screening Conclusion (In Combination)
			<p>This site is located adjacent to Morecambe Bay and Duddon Estuaries SPA and Duddon Estuary Ramsar and may offer supporting habitat for any bird species for which the SPAs and Ramsar sites are designated.</p>	

## 4 Summary of HRA Screening and Next Steps

### 4.1 Summary of Policies and Allocations Screened In

4.1.1 **Table 4.1** below summarises the key issues that require further consideration through Appropriate Assessment due to an inability at the screening stage to be able to rule out LSE either alone or in combination.

**Table 4.1: Main Policy Areas Screened In and Issues Requiring Appropriate Assessment.**

Main Aspects of Local Plan Screened In at Preferred Options Stage	Reasons for Screening In	Changes at Publication Draft Screening
<p><u>Strategic Development policies (previously policy number in brackets)</u>            DS3PU - Settlement Hierarchy (DS2PO)            DS4PU - Settlement Boundaries (DS3PO)</p> <p><u>Housing policies</u>            H2PU - Housing Requirement (H2PO)            H3PU - Housing Delivery (H3PO)            H4PU - Distribution of Housing (H4PO)            H5PU - Housing Allocations (H5PO)            H6PU - New Housing Development (H6PO)            H11PU - Community-led, Self-build and Custom Build Housing (H10PO)            H12PU - Residential Establishments, Including Specialist, Older Persons Housing and Purpose Built Student and Key-worker Accommodation (H11PO)            H13PU - Conversion and Sub-division of Buildings to Residential Uses Including Large HMO's (H12PO)            H14PU - Domestic Extensions and Alterations (H13PO)            H15PU - Rural Exception Sites (H14PO)            H16PU - Essential Dwellings for Rural Workers (H15PO)            H17PU - Conversion of Rural Buildings to Residential Use (H16PO)            H18PU - Replacement Dwellings Outside Settlement Boundaries (H17PO)</p> <p><u>Economic policies</u>            E1PU - Economic Growth (E1PO)            E3PU - West Lakes Science and Technology Park (E3PO)            E6PU - Opportunity Sites (E5PO)            E7PU - Safeguarding of Employment Sites (E6PO)            RE1PU - Agricultural Buildings (RE1PO)            RE2PU - Equestrian Related Development (RE2PO)            RE3PU - Conversion of Rural Buildings to Commercial or Community Use (RE3PO)</p> <p><u>Nuclear development policies</u>            NU1PU - Supporting Development of the Nuclear Sector (CC4PO)            NU2PU - Maximising Opportunities from Nuclear Decommissioning (CC5PO)            NU3PU - General Nuclear Energy Sector and associated Development and Infrastructure (CC6PO)            NU4PU - Nuclear Sector Development at Sellafield (CC7PO)</p> <p><u>Retail and leisure policies</u>            R2PU - Hierarchy of Town Centres (R2PO)            R3PU - Whitehaven Town Centre (R5PO)            R7PU - Sequential Test (R3PO)</p>	<p>At present, the quantum, type and location of development could lead to LSE through several pathways of impact.</p>	<p>H3PU (Housing Delivery)            H15PU (Rural Exception Sites)            H16PU (Essential Dwellings for Rural Workers)            RE3PU (Conversion of Rural Buildings to Commercial or Community Use)            R7PU (Sequential Test)</p> <p>SCREENED OUT</p> <p>E4PU (Cleator Moor Innovation Quarter at Leconfield)</p> <p>NEW POLICY – SCREENED IN</p>

Main Aspects of Local Plan Screened In at Preferred Options Stage	Reasons for Screening In	Changes at Publication Draft Screening
<u>Connectivity policies</u> CO2PU - Priorities for Improving Transport Networks Within Copeland (CO2PO) CO6PU - Countryside Access (CO6PO)	At present, the location of development could lead to LSE through reduced air quality and recreational pressure.	CO6PU (Countryside Access)  SCREENED OUT
<u>Health, sports and culture policies</u> SC2PU - Sporting, Leisure and Cultural Facilities (H21PO) SC3PU - Playing Fields and Pitches (H22PO) SC5PU - Community and Cultural Facilities (H23PO)	At present, the quantum, type and location of development could lead to LSE through recreational disturbance or loss of supporting habitats.	SC2PU (Sporting, Leisure and Cultural Facilities) SC5PU (Community and Cultural Facilities)
<u>Tourism policies</u> T3PU - Caravans and Camping Sites for Short Term Letting (T4PO)	At present, the quantum, type and location of development could lead to LSE through recreational disturbance or loss of supporting habitats.	T3PU (Caravans and Camping Sites for Short Term Letting)  SCREENED OUT
Housing allocations, employment sites and draft opportunity areas	At present, the quantum, type and location of development could lead to LSE through several pathways of impact.	

## 5 Appropriate Assessment – Recreational Pressure and Disturbance

### 5.1 NSN and Ramsar Sites Screened Out

5.1.1 The following NSN and Ramsar sites do not require further Appropriate Assessment due to potential LSE that might arise from Copeland’s Local Plan either alone or in combination with other plans and projects.

**Table 5.1:** NSN and Ramsar sites screened out of HRA through the pathway of recreational pressure and disturbance.

NSN and Ramsar Site	Reason for Screening Out
Borrowdale Woodland Complex SAC	No direct route from Copeland to this SAC and not a major tourist destination.
Clints Quarry SAC	Not sensitive to recreational pressures likely to arise from the Local Plan.
Duddon Mosses SAC	Not cited as being sensitive to recreational pressure and largely not easily accessible.
North Pennine Dales Meadows SAC	No direct route from Copeland to this SAC and not a major tourist destination.
River Derwent and Bassenthwaite Lake SAC	Although theoretically vulnerable to recreational pressure, no policies or Housing allocations, employment sites and draft opportunity areas have been identified that would lead to LSE on this SAC.
River Ehen SAC	Trampling, disturbance and pollution incidents are cited in the SIP for the site as the main concerns. It is considered unlikely however, that occupants of new dwellings would cause LSE on the designated features of the SAC (freshwater pearl mussel and Atlantic salmon). The river does not appear to be formally accessible for walking alongside it via public footpaths. Recreational pressure on the River Ehen SAC is possible in combination with allocations proposed for Cleator Moor, Egremont and nearby smaller settlements. However, this is considered unlikely to be significant given the limited accessibility to the SAC along its length.
Roudsea Wood and Mosses SAC	No direct route from Copeland to this SAC and not a major tourist destination.
Subberthwaite, Blawith and Torver Low Commons SAC	Although vulnerable to increased recreational pressure, in reality the distance of this site from Millom, and comparative attraction of other closer landscapes mean that a significant effect is unlikely.
Wast Water SAC	Although a popular tourist destination, the SAC itself is not particularly sensitive to recreational pressures.
Yewbarrow Woods SAC	No direct route from Copeland to this SAC and not a major tourist destination.
Esthwaite Water Ramsar	Not cited as being sensitive to recreational pressure.

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## 5.2 NSN and Ramsar Sites Screened In for Appropriate Assessment

5.2.1 The following NSN and Ramsar sites have been screened in as requiring consideration through Appropriate Assessment due to the potential for LSE from recreational pressure or disturbance arising from the policies and/or Housing allocations, employment sites and draft opportunity areas included within the Local Plan.

### Drigg Coast SAC

5.2.2 Much of the Drigg Coast SAC comprises estuarine habitats that are unlikely to be adversely affected by recreational pressure or comprises relatively inaccessible or dangerous areas. The dune habitats are more accessible to walkers and dog walkers though access is limited to one designated car park, and much of the sand dune area is under Countryside Stewardship Agreements or as a Cumbrian Wildlife Trust reserve.

5.2.3 The SAC is vulnerable to erosion and fragmentation of habitats, although recreational pressure is not listed as a threat on the NSN and Ramsar form for the site and nor is it addressed under the Site Improvement Plan for the Drigg Coast SAC.<sup>11</sup> The site is accessible by one car park west of Drigg, and also by foot further to the north. These access points are linked by the Cumbria Coastal Way footpath that extends northward along the shoreline.

### Lake District High Fells SAC

5.2.4 The Lake District High Fells SAC lies outside of Copeland, but within the National Park. The SAC is vulnerable to trampling, erosion and fragmentation of habitats, and recreational pressure is listed as a threat on the NSN and Ramsar form for the site. HRA undertaken for the Lake District National Park (LDNP) Core Strategy and for the Local Plan Review, has led to a conclusion of no LSE from policies and Housing allocations, employment sites and draft opportunity areas within the LDNP on the SAC, alone and in combination with other plans and projects. The Site Improvement Plan for the Lake District High Fells SAC<sup>12</sup> identifies that a continuation of the existing Fix the Fells programme, led by the National Trust, and including the LDNP Authority is a key measure in continuing to address the potential for recreational damage. This is outside the remit of Copeland BC to contribute to.

### Morecambe Bay SAC, Morecambe Bay and Duddon Estuary SPA, Duddon Estuary Ramsar and Morecambe Bay Ramsar

5.2.5 Morecambe Bay SAC lies partially within Copeland, and is vulnerable to recreational pressure resulting in trampling, erosion and fragmentation of habitats for which it is designated. The Morecambe Bay and Duddon Estuary SPA and the Duddon Estuary Ramsar sites lie partially within Copeland, and are vulnerable to disturbance of designated bird species, with the Ramsar site also vulnerable to physical changes such as trampling, erosion and fragmentation of habitats. Morecambe Bay Ramsar site lies outside of Copeland's boundary and is

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<sup>11</sup> <http://publications.naturalengland.org.uk/publication/6642520305958912>

<sup>12</sup> <http://publications.naturalengland.org.uk/publication/6534434434056192>

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vulnerable to disturbance of designated bird species, with the Ramsar site also vulnerable to physical changes such as trampling, erosion and fragmentation of habitats.

- 5.2.6 Recreational pressure and disturbance are listed as a threat on the NSN and Ramsar forms for Morecambe Bay SAC and Morecambe Bay and Duddon Estuary SPA, though not for the Duddon Estuary Ramsar or Morecambe Bay Ramsar. The large size of these designated sites does mean that they are likely to be robust to pressures arising from individual developments, except where this would cause disturbance to critical bird nesting, feeding or roosting locations. These are issues that would be most sensibly addressed at the project-specific level. However in combination with developments across several LPAs, policies that promote development within Copeland could lead to LSE. The Site Improvement Plan that covers both the SAC and SPA<sup>13</sup> identifies that co-ordinated actions to determine and address the causes of recreational pressure and disturbance are needed, and should include the Duddon Estuary and Morecambe Bay Partnerships, and the Morecambe Bay European Marine Site Partnership.

#### Solway Firth SPA

- 5.2.7 This SPA lies just offshore from Whitehaven and adjoins the coast further north within the Borough. It is designated for its wintering bird populations, which are vulnerable to coastal and offshore recreational and other activities that might cause disturbance. Recreational pressure and disturbance are listed as threats on the NSN and Ramsar forms for the Solway Firth SPA. The large size, and largely offshore nature of the proposed designation does mean that it is likely to be robust to pressures arising from individual developments, except where this would cause disturbance to critical bird feeding or roosting locations.

### **5.3 Policies and Site Allocations Screened In as Requiring Appropriate Assessment**

- 5.3.1 Policies that could lead to likely significant effects alone and in combination through recreational pressure and disturbance are shown in the following table.

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<sup>13</sup> <http://publications.naturalengland.org.uk/publication/6708495835463680>

**Table 5.2: Policies and site allocations with potential to lead to LSE on Nature 2000 sites through the pathway of recreational pressure and disturbance.**

Policy	Drigg Coast SAC	Lake District High Fells SAC	Morecambe Bay SAC, Morecambe Bay and Duddon Estuary SPA, Duddon Estuary Ramsar and Morecambe Bay Ramsar	Solway Firth SPA
Reasons for Screening In				
DS4PU (Settlement Boundaries)	This policy promotes development that includes an increase in housing numbers across the Borough. Therefore, prior to mitigation there is potential for this to result in an increase in recreational pressure and disturbance.			
DS3PU (Settlement Hierarchy)	This policy specifically lists Drigg/Holmrook as a local service centre with Council support for development at this location. These settlements are in close proximity to the Drigg Coast SAC and therefore an increase in housing at these locations, prior to mitigation, has the potential to lead to an increase in recreational pressure on the SAC, both alone and in combination with other plans and projects.		This policy specifically lists Millom as a Key Service Centre and Haverigg and Drigg/Holmrook as a local service centres with Council support for development at these locations. These settlements are in close proximity to the SAC and the Morecambe Bay and Duddon Estuary SPA and the Duddon Estuary Ramsar sites and therefore an increase in housing at these locations, prior to mitigation, has the potential to lead to an increase in recreational pressure on the SAC and Ramsar site, and increased disturbance on the SPA and Ramsar sites, both alone and in combination with other plans and projects.	This policy specifically lists Whitehaven as the Principal Town with Council support for development at these locations. Whitehaven lies in close proximity to the SPA and therefore an increase in housing here in particular, prior to mitigation, has the potential to lead to an increase in recreational pressure and disturbance on the SPA, both alone and in combination with other plans and projects.
H2PU (Housing Requirement) H6PU (New Housing Development)	These policies promote an increase in housing numbers generally across the Borough, with policy H2PU stating a need for 2,482 net additional dwellings by 2038. Therefore, prior to mitigation there is potential for this to result in an increase in recreational pressure and disturbance.			

Policy	Drigg Coast SAC	Lake District High Fells SAC	Morecambe Bay SAC, Morecambe Bay and Duddon Estuary SPA, Duddon Estuary Ramsar and Morecambe Bay Ramsar	Solway Firth SPA
Reasons for Screening In				
<p>H11PU (Community-led, Self-build and custom build housing)</p> <p>H12PU (Residential Establishments, including Specialist, older person housing and purpose built student and key-worked accommodation)</p> <p>H13PU (Conversion and sub-division of buildings to residential uses including large HMO's)</p> <p>H14PU (Domestic Extensions and Alterations)</p> <p>H17PU (Conversion of Rural Buildings to Residential Use)</p> <p>H18PU (Replacement Dwellings outside Settlement Boundaries)</p> <p>R2PO (Hierarchy of Town Centres)</p>	<p>The location of the Morecambe Bay Ramsar outside of Copeland's boundary means that small and localised developments that are likely to be delivered under policies H11PU, H12PU, H13PU, H14PU, H17PU and H18PU are unlikely to be sited such that these policies in themselves would give rise to LSE on the Ramsar site, but in combination effects would be possible.</p>			
<p>SC3PU (Playing Fields and Pitches)</p>			<p>This is a policy that promote the location of leisure activities that dependent on location could result in noise generating or highly visible activities that could have potential to disturb bird species, with the exception of the Morecambe Bay Ramsar site that lies outside of Copeland.</p>	
<p>H4PU (Distribution of Housing)</p> <p>H5PU (Housing Allocations)</p>	<p>Policy H4PU specifically lists Drigg/ Holmrook as part of the Borough's network of</p>		<p>Policy H4PU specifically lists Millom as a Key Service Centre that will deliver a proportion of</p>	<p>Policy H4PU specifically lists Whitehaven as the Principal Town that will deliver up to minimum 993 new dwellings over the</p>

Policy	Drigg Coast SAC	Lake District High Fells SAC	Morecambe Bay SAC, Morecambe Bay and Duddon Estuary SPA, Duddon Estuary Ramsar and Morecambe Bay Ramsar	Solway Firth SPA
Reasons for Screening In				
	<p>sustainable rural villages that will be expected to deliver minimum 248 new dwellings over the lifetime of the Local Plan. Therefore, prior to mitigation there is potential for this to result in an increase in recreational pressure on the Drigg Coast SAC. Policy H5PU specifically cites relevant housing allocations and within the current housing allocations under consideration, up to approximately 42 new dwellings could be located close to Drigg and Holmrook. The nearest of the key service centres is Egremont located 10km to the north of the SAC and given the coastline extending along the length of Copeland it is less likely that considerable visitor pressure would arise over this kind of distance.</p>		<p>minimum 745 new dwellings over the lifetime of the Plan. Along with the settlement of Haverigg, part of the Borough's network of local service centres that will be expected to deliver minimum 422 new dwellings over the lifetime of the Local Plan, there is potential for increased recreational pressure and disturbance on Morecambe Bay SAC, Morecambe Bay and Duddon Estuary SPA and Duddon Estuary Ramsar. Development at Drigg/ Holmrook have potential to result in an increase in recreational pressure and disturbance on the SPA. So too does development at Whitehaven and Egremont, in combination with other plans and projects, as the SPA at Drigg, lies only 10-12km from these more major settlements on the Drigg Coast SAC. Policy H5PU specifically cites relevant housing allocation sites.</p>	<p>lifetime of the Plan. This has the potential to result in an increase in recreational pressure and disturbance on the SPA both alone and in combination with other plans and projects. Policy H5PU specifically cites relevant housing allocation sites.</p>
RE2PU (Equestrian Related Development)	<p>This policy could promote access to the countryside from settlements and although the Drigg Coast SAC is unlikely to be a focus for equestrian activity, it</p>		<p>This policy could promote access to the countryside from settlements and without mitigation, particularly at Millom, along with smaller Key Service</p>	<p>This policy could promote access to the countryside from settlements and without mitigation, particularly north of Whitehaven, there is a possibility of increased recreational pressure and</p>

Policy	Drigg Coast SAC	Lake District High Fells SAC	Morecambe Bay SAC, Morecambe Bay and Duddon Estuary SPA, Duddon Estuary Ramsar and Morecambe Bay Ramsar	Solway Firth SPA
Reasons for Screening In				
	is nonetheless, a possibility both alone and in combination with other plans and projects.		Centres, there is a possibility of increased recreational pressure and disturbance on Morecambe Bay SAC, Morecambe Bay and Duddon Estuary SPA and Duddon Estuary Ramsar, both alone and in combination with other plans and projects.	disturbance on the SPA, both alone and in combination with other plans and projects.
E1PU (Economic Growth) E6PU (Opportunity Sites) E7PU (Safeguarding of Employment Sites)			Dependent on the scale, location and type of facility, employment sites have the potential to create noise and visible disturbance that could have potential to disturb bird species for which the Morecambe Bay and Duddon Estuary SPA and Duddon Estuary Ramsar sites are designated.	Dependent on the scale, location and type of facility, employment sites have the potential to create noise and visible disturbance that could have potential to disturb bird species for which the Solway Firth SPA is designated.
CO2PU (Priorities for Improving Transport Networks Within Copeland)	One of the transport priorities listed for Copeland is improvements to the A595 road that passes close to the SAC. However, the only official car park providing access to the SAC still lies over 4km from the A595, and thus improvements on this road are unlikely to significantly increase footfall on the SAC.		One of the transport priorities listed for Copeland is improvements to the A595 road that passes close to the Morecambe Bay and Duddon Estuary SPA. However, the only official car park providing access to the SPA still lies over 4km from the A595, and thus improvements on this road are unlikely to significantly increase footfall on	This policy promotes improved cycling and walking networks which could also lead to increased recreational pressure and disturbance on the coast at Whitehaven and further north.

Policy	Drigg Coast SAC	Lake District High Fells SAC	Morecambe Bay SAC, Morecambe Bay and Duddon Estuary SPA, Duddon Estuary Ramsar and Morecambe Bay Ramsar	Solway Firth SPA
Reasons for Screening In				
			the SPA. This policy also promotes improved cycling and walking networks which could also lead to increased recreational pressure and disturbance on Morecambe Bay SAC, Morecambe Bay and Duddon Estuary SPA and Duddon Estuary Ramsar if located adjacent to these sites.	
<p>NU1PU (Supporting Development of the Nuclear Sector)</p> <p>NU2PU (Maximising Opportunities from Nuclear Decommissioning)</p> <p>NU3PU (General Nuclear Energy Sector and associated Development and Infrastructure)</p>			<p>Dependent on the scale, location and type of facility, energy sites have the potential to create noise and visible disturbance that could have potential to disturb bird species.</p>	

## 5.4 Mitigation

5.4.1 There are policies within the Local Plan that provide protective measures to assist in avoiding or mitigating potential for LSE on NSN and Ramsar sites, through recreational pressure and disturbance.

5.4.2 As an overarching protection, policy DS1PU (Presumption in Favour of Sustainable Development) will need to be compliant with the NPPF, and the policy indicates that applications will be approved without delay *“unless material considerations indicate otherwise.”* Material considerations relating to the presumption in favour of sustainable development are laid out in the NPPF that indicates that *‘the presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site’*. Therefore for individual applications, a protective umbrella of requiring the plan or project to ensure no LSE on NSN and Ramsar sites will be in place.

5.4.3 Housing allocations are however, dependent on the deliverability of policies within the Local Plan, and therefore the Local Plan itself needs to demonstrate no LSE on NSN and Ramsar sites. Policy N1PU (Conserving and Enhancing Biodiversity and Geodiversity) seeks to ensure that *‘potential harmful impacts of any development upon biodiversity and geodiversity must be identified and considered at the earliest stage. Proposals must demonstrate, to the satisfaction of the Council, that the following sequential steps have been undertaken*

**Avoidance** – *Biodiversity and geodiversity must be considered when drafting up proposals and any potential harmful effects on biodiversity and geodiversity must be identified along with appropriate measures that will be taken to avoid these effects.*

**Mitigation** – *Where harmful effects cannot be avoided, they must be appropriately mitigated in order to overcome or reduce negative impacts.*

**Compensation** – *Where mitigation is not possible or viable or in cases where residual harm would remain following mitigation, harmful effects should be compensated for. Where this is in the form of compensatory habitat of an area of equivalent or greater biodiversity value should be provided. Compensation is a last resort and will only be accepted in exceptional circumstances.*

*Where harm remains to a Natura 2000 site, or functionally linked land, development will only be approved where it can be demonstrated that there are imperative reasons of overriding public interest. In such cases, compensatory measures must ensure the overall coherence of the network of European sites as a whole is protected.’*

This policy provides explicit protection to biodiversity, including NSN and Ramsar sites, in line with the ethos of policy DS1PU. The Local Plan also states that the plan must be read as a

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whole and therefore it is the case that all other policies must be considered as cross-referencing DS1PU and N1PU.

- 5.4.4 Policies H4PU and H5PU that define the need for delivery of housing numbers at specified locations and individual allocations is therefore compliant with other Plan policies, including N1PU, where development must result in no LSE on NSN and Ramsar sites, both alone and in combination with other plans and projects.
- 5.4.5 Policies H15PU (Rural Exception Sites) H16PU (Essential Dwellings for Rural Workers) state that developments must not result in a significant adverse impact on biodiversity. In order to ensure no LSE arises as a result of policies H11PU (Community-led, Self build and custom build housing), H12PU (Residential Establishments, including Specialist, older person housing and purpose built student and key-worked accommodation), H13PU (Conversion and sub-division of buildings to residential uses including large HMO's), H14PU (Domestic Extensions and Alterations), H17PU (Conversion of Rural Buildings to Residential Use) and H18PU (Replacement Dwellings outside Settlement Boundaries), the policies must be considered in the context of the Plan overall, including policy N1PU.
- 5.4.6 The need for the Plan to be considered as a whole also ensures that economic policies must also be compliant with N1PU. Additionally, policy E2PU (Location of Employment) effectively mitigates policy E5PU (Employment Sites and Allocations) through stating that *“where the following impacts occur, development will only be supported where the mitigation measures proposed are deemed by the Council to make the development acceptable...impact on biodiversity”*. Policies E5PU and E6PU (Opportunity Sites) clarify that in order to comply with policy E2PU, project-level HRA may be needed.
- 5.4.7 Policies NU1PU (Supporting Development of the Nuclear Sector), NU2PU (Maximising Opportunities from Nuclear Decommissioning) and NU3PU (General Nuclear Energy Sector and associated Development and Infrastructure) should add that for large scale renewable energy projects or related economic schemes, then it is highly likely that project-specific HRAs will be necessary.

## 5.5 Site Allocations

- 5.5.1 All housing allocations within Copeland have the potential, if not alone, then in combination with other plans and projects, to lead to likely significant effects on NSN and/or Ramsar sites through recreational pressure or disturbance.
- 5.5.2 In their response to the Preferred Options stage of the Local Plan, Natural England indicated that *“housing at Millom will require a HRA to assess recreational impacts on Morecambe Bay and Duddon Estuaries SPA and Duddon Estuary Ramsar.”* The screening stage of the report to inform a HRA has indicated that this is the case. However, it is unlikely that any given site allocation alone will contribute to significant effects on these designations. The protection of NSN and Ramsar sites requires Plan-level avoidance and mitigation, with the policy wording discussed in the paragraphs above seeking to ensure this is in place. Strategically, the issue of recreational disturbance on these designated sites will require identification of the sources and locations of disturbance, involving partnership working which will then inform any mitigation approaches at the strategic level. Until such time as an overarching

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approach is developed to management of recreational pressure on Morecambe Bay and Duddon Estuaries SPA and Duddon Estuary Ramsar and other NSN and Ramsar sites to which increased housing within Copeland could contribute, then the Local Plan could commit to working with partners and stakeholders to implement approaches to management of recreational pressure as and when such approaches may be agreed.

## **5.6 In Combination Effects**

- 5.6.1 Although the Drigg Coast SAC could in theory be vulnerable to increased recreational pressure or disturbance in combination with increased housing numbers outside of Copeland, its location means that it is neither easily accessible and nor is it a prime tourist location.
- 5.6.2 The Lake District High Fells SAC, Morecambe Bay SAC, Morecambe Bay and Duddon Estuary SPA, Duddon Estuary Ramsar, Morecambe Bay Ramsar, and Solway Firth SPA all lie wholly or partly within other local authority boundaries and hence are vulnerable to increased recreational pressure or disturbance in combination with increased development outside of Copeland. The Council should commit to working in partnership with other stakeholders in order to identify solutions and implement approaches to management of recreational pressure as and when such approaches may be agreed.
- 5.6.3 No individual allocations have been identified that would lead to LSE on the Drigg Coast SAC, Lake District High Fells SAC, Morecambe Bay SAC, Morecambe Bay and Duddon Estuary SPA, Duddon Estuary Ramsar, Morecambe Bay Ramsar, or Solway Firth SPA through recreational pressure or disturbance, and the Local Plan's contribution to any in combination effects highlighted through the screening stage of Appropriate Assessment are addressed at policy level within the Local Plan and the mitigation proposed in this report to inform a HRA.

## **5.7 Conclusion**

- 5.7.1 It is considered that taking into account the susceptibilities of the NSN and Ramsar sites assessed, protective policies already embedded into the Local Plan, and proposed mitigation, which has now been taken into account in producing the Publication Draft Local Plan, no LSE will remain on any NSN and Ramsar site, either alone or in combination with other plans and projects, as a result of recreational pressure and disturbance.

## 6 Appropriate Assessment - Air Quality

### 6.1 NSN and Ramsar Sites Screened Out

- 6.1.1 The following NSN and Ramsar sites do not require further Appropriate Assessment due to potential LSE that might arise from Copeland's Local Plan either alone or in combination with other plans and projects.

**Table 6.1: NSN and Ramsar sites screened out of HRA through the pathway of reduced air quality.**

NSN and Ramsar Site	Reason for Screening Out
Borrowdale Woodland Complex SAC	No direct route from Copeland to this SAC.
Clints Quarry SAC	Not sensitive to air quality pressures.
North Pennine Dales Meadows SAC	No direct route from Copeland to this SAC.
River Derwent and Bassenthwaite Lake SAC	The SAC is designated for aquatic habitats and species, and there is a lack of data for sensitivity to air pollutants. The lake runs adjacent to the A66 along its western shoreline. However, it is likely that nitrogen within the aquatic environment contributes far more to deposition within the ecosystem than that arising from air quality.
River Ehen SAC	Not sensitive to air quality pressures.
Roudsea Wood and Mosses SAC	No direct route from Copeland to this SAC.
Wast Water SAC	Not sensitive to air quality pressures.
Yewbarrow Woods SAC	15km from Copeland and not within 200m of a major road.
Solway Firth SPA	Habitats supporting designated bird populations are not sensitive to air quality pressures.
Esthwaite Water Ramsar	Not cited as being sensitive to reduced air quality.

### 6.2 NSN and Ramsar Sites Screened In for Appropriate Assessment

- 6.2.1 The following NSN and Ramsar sites have been screened in as requiring consideration through Appropriate Assessment due to the potential for LSE from reduced air quality arising from the policies and/or Housing allocations, employment sites and draft opportunity areas included within the Local Plan.

#### Drigg Coast SAC

- 6.2.2 The habitats for which the Drigg Coast SAC is designated have varying degrees of vulnerability to air pollution. Habitats that are regularly inundated by the tide, for example estuaries, are considered to be less sensitive due to the fact that nitrogen within the aquatic environment contributes far more to deposition within the ecosystem than that arising from the atmosphere.
- 6.2.3 However, landward habitats, in particular dune systems and atlantic salt marsh, are sensitive to nitrogen deposition. Although nitrogen and oxides of nitrogen are the primary concern for most policies and allocations that arise from a Local Plan, acid deposition may also occur as

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a result of some industrial processes that could occur from development of sufficient size and where the location is relevant to a NSN and Ramsar site.

- 6.2.4 The Drigg Coast SAC lies within 200m of the A595 road at two locations, with a total distance of over 1km of designated habitat length being within 200m. The majority of this habitat is atlantic salt marsh or coastal floodplain grazing marsh, both of which are habitats sensitive to reductions in air quality. The critical load for these habitats is 20-30 kg N ha<sup>-1</sup> year<sup>-1</sup> <sup>14</sup>. The current nitrogen deposition on these habitats is 11.34 Kg N/ha/year and the NOx emissions levels are 4.82 µg NOx (as NO<sub>2</sub>) m<sup>-3</sup> compared to the critical level of 30 µg NOx (as NO<sub>2</sub>) m<sup>-3</sup>. It is therefore unlikely that as a result of the Local Plan, either alone or in combination that the critical load/levels will be exceeded for the Drigg Coast SAC. The SAC is 1,396ha in extent and it may be calculated that only 0.2-0.3ha of habitat would be subject to any potential increases in pollutants arising from traffic on the A595.
- 6.2.5 Therefore it is considered that LSE on the SAC as a result of reduced air quality is not likely to occur through increases in road traffic.

#### Duddon Mosses SAC

- 6.2.6 The Duddon Mosses SAC lies outside of Copeland, to the east, but connected to the Borough by the A595, which passes within 200m of the SAC approximately 6km outside of Copeland. The SAC habitats are sensitive to nitrogen deposition.
- 6.2.7 The Duddon Mosses SAC lies within 200m of the A595 road for a total of almost 2km. The habitat is lowland raised bog and the critical load for this habitat is 5-10 kg N ha<sup>-1</sup> year<sup>-1</sup> <sup>15</sup>. The current nitrogen deposition on these habitats is 13.30 Kg N/ha/year and the NOx emissions levels are 6.18 µg NOx (as NO<sub>2</sub>) m<sup>-3</sup> compared to the critical level of 30 µg NOx (as NO<sub>2</sub>) m<sup>-3</sup>.
- 6.2.8 It is therefore possible that as a result of the Local Plan, either alone or in combination with other plans and projects, that the critical load for nitrogen will be further exceeded for the Duddon Mosses SAC.
- 6.2.9 The Site Improvement Plan for the SAC<sup>16</sup> does include the need to control, reduce and ameliorate nitrogen deposition impacts, but does not define a mechanism for achieving this.

#### Lake District High Fells SAC

- 6.2.10 The Lake District High Fells SAC lies outside of Copeland, but within the National Park. The SAC habitats are sensitive to nitrogen deposition.
- 6.2.11 The Lake District High Fells SAC lies within 200m of the A66 and A591 roads that although not directly connected to Copeland, do nevertheless for a major transport link between Copeland and the M6 corridor to the east. The main habitats mapped as lying within 200m of the roads at such locations are heathland (moorland) and the critical load for alpine and

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<sup>14</sup> <http://www.apis.ac.uk>

<sup>15</sup> <http://www.apis.ac.uk>

<sup>16</sup> <http://publications.naturalengland.org.uk/publication/5667921359536128>

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boreal heaths is 5-15 kg N ha<sup>-1</sup> year<sup>-1</sup> <sup>17</sup>. The current nitrogen deposition on these habitats is 21.28 Kg N/ha/year adjacent to the A591 and 22.26 Kg N/ha/year adjacent to the A66. NOx emissions levels are well within critical levels.

6.2.12 It is therefore possible that as a result of the Local Plan, either alone or in combination with other plans and projects, that the critical load for nitrogen will be further exceeded for the Lake District High Fells SAC. The SAC has an area of 27,000ha and only a very small fraction of this lies within 200m of major roads that link to Copeland. However, it should also be acknowledged that the SAC is a popular tourist attraction and that traffic on minor roads may also contribute to exceedance of nitrogen critical loads.

6.2.13 The Site Improvement Plan for the SAC<sup>18</sup> does include the potential for development of a Site Nitrogen Action Plan, although this has yet to be implemented.

Morecambe Bay SAC, Morecambe Bay and Duddon Estuary SPA, Duddon Estuary Ramsar and Morecambe Bay Ramsar

6.2.14 Morecambe Bay SAC, Morecambe Bay and Duddon Estuary SPA and the Duddon Estuary Ramsar lie partially within Copeland, whilst Morecambe Bay Ramsar site lies outside of Copeland's boundary.

6.2.15 The habitats for which the sites are designated, or which underpin designated features have varying degrees of vulnerability to air pollution. Habitats that are regularly inundated by the tide, for example estuaries, are considered to be less sensitive due to the fact that nitrogen within the aquatic environment contributes far more to deposition within the ecosystem than that arising from the atmosphere. However, landward habitats, in particular dune systems and atlantic salt marsh, are sensitive to nitrogen deposition. Although nitrogen and oxides of nitrogen are the primary concern for most policies and allocations that arise from a Local Plan, acid deposition may also occur as a result of some industrial processes that could occur from development of sufficient size and where the location is relevant to a NSN and Ramsar site.

6.2.16 The Morecambe Bay and Duddon Estuary SPA lies within 200m of the A595 road at two locations, with a total distance of over 1km of designated habitat length being within 200m. The majority of this habitat is atlantic salt marsh or coastal floodplain grazing marsh, both of which are habitats sensitive to reductions in air quality. The critical load for these habitats is 20-30 kg N ha<sup>-1</sup> year<sup>-1</sup> <sup>19</sup>. The current nitrogen deposition on these habitats is 11.48 Kg N/ha/year and the NOx emissions levels are 6.15 µg NOx (as NO<sub>2</sub>) m<sup>-3</sup> compared to the critical level of 30 µg NOx (as NO<sub>2</sub>) m<sup>-3</sup>.

6.2.17 It is therefore unlikely that as a result of the Local Plan, either alone or in combination, the critical load/levels will be exceeded for the Morecambe Bay and Duddon Estuary SPA within Copeland. Outside of the Borough, the SAC, SPA and both Ramsar sites do lie within 200m of

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<sup>17</sup> <http://www.apis.ac.uk>

<sup>18</sup> <http://publications.naturalengland.org.uk/publication/6534434434056192>

<sup>19</sup> <http://www.apis.ac.uk>

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A-roads at various locations. The NSN and Ramsar sites are very extensive, and, only very small proportions of the site areas lie within 200m of major roads.

- 6.2.18 It is therefore possible that as a result of the Local Plan, in combination with other plans and projects, that LSE could occur on Morecambe Bay SAC, Morecambe Bay and Duddon Estuaries SPA, Duddon Estuary Ramsar and Morecambe Bay Ramsar, but the probability is that LSE will not occur affecting the overall integrity of the designations.
- 6.2.19 The Site Improvement Plan for Morecambe Bay (including all the relevant NSN and Ramsar sites)<sup>20</sup> does include the need to further investigate potential impacts of atmospheric nitrogen on the NSN and Ramsar sites.

#### Subberthwaite, Blawith and Torver Low Commons SAC

- 6.2.20 This SAC lies outside of Copeland, to the east, but connected to the Borough by the A5092, which passes within 200m of the SAC approximately 10km outside of Copeland for a distance of just over 1km. The SAC habitats are sensitive to nitrogen deposition.
- 6.2.21 The SAC lies within 200m of the A5092 road for a total of just over 1km. The habitat is upland flushes, fens and swamps and the critical load for this habitat is 10-15 kg N ha<sup>-1</sup> year<sup>-1</sup><sup>21</sup>. The current nitrogen deposition on these habitats is 13.86 Kg N/ha/year and the NOx emissions levels are 6.13 µg NOx (as NO<sub>2</sub>) m<sup>-3</sup> compared to the critical level of 30 µg NOx (as NO<sub>2</sub>) m<sup>-3</sup>.
- 6.2.22 It is therefore possible that as a result of the Local Plan, either alone or in combination with other plans and projects, that the critical load for nitrogen will be further exceeded for the SAC.
- 6.2.23 The Site Improvement Plan for the SAC<sup>22</sup> does include the need to further investigate the potential impacts of atmospheric nitrogen on the site.

### **6.3 Policies Screened In as Requiring Appropriate Assessment**

Policies that could lead to likely significant effects alone and in combination through reduced air quality are shown in the following table.

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<sup>20</sup> <http://publications.naturalengland.org.uk/publication/6708495835463680>

<sup>21</sup> <http://www.apis.ac.uk>

<sup>22</sup> <http://publications.naturalengland.org.uk/publication/6537940905754624>

**Table 6.2: Policies with potential to lead to LSE on NSN and Ramsar sites through the pathway of reduced air quality.**

Policy	Drigg Coast SAC	Duddon Mosses SAC	Lake District High Fells SAC	Morecambe Bay SAC, Morecambe Bay and Duddon Estuary SPA, Duddon Estuary Ramsar and Morecambe Bay Ramsar	Subberthwaite, Blawith and Torver Low Commons SAC
<b>Reasons for Screening In</b>					
DS4PU (Settlement Boundaries)	This policy promotes development that includes an increase in housing numbers across the Borough. Therefore, prior to mitigation there is potential for this to result in an increase in air pollution through increased vehicle journeys on roads within and connected to Copeland.				
DS3PU (Settlement Hierarchy)	This policy specifically lists Drigg/Holmrook as sustainable rural villages with Council support for development at these locations. These settlements are in close proximity to the SAC and therefore an increase in housing at these locations, prior to mitigation, has the potential to lead to a reduction in air quality on the SAC, both alone and in combination with other plans and projects.			This policy specifically lists Millom as a Key Service Centre, Haverigg as a local service centre and Drigg/Holmrook as sustainable rural villages with Council support for development at these locations. These settlements are in close proximity to the SAC and SPA and the Duddon Estuary Ramsar and therefore an increase in housing at these locations, prior to mitigation, has the potential to lead to a reduction in air quality on the NSN and Ramsar sites, both alone and in combination with other plans and projects. These settlements also lie closest to roads within the Borough that subsequently connect to routes that pass within 200m of the Morecambe Bay Ramsar site to the south.	

<p>H2PU (Housing Requirement)</p> <p>H3PU (Housing Delivery)</p> <p>H6PU (New Housing Development)</p> <p>H11PU (Community-led, Self build and custom build housing)</p> <p>H12PU (Residential Establishments, including Specialist, older person housing and purpose built student and key-worked accommodation)</p> <p>H13PU (Conversion and subdivision of buildings to residential uses including large HMO's)</p> <p>H14PU (Domestic Extensions and Alterations)</p> <p>H17PU (Conversion of Rural Buildings to Residential Use)</p> <p>H18PU (Replacement Dwellings outside Settlement Boundaries)</p> <p>R2PU (Hierarchy of Town Centres)</p>	<p>These policies promote an increase in housing numbers generally across the Borough, with policy H2PU stating a need for 2,482 net additional dwellings by 2038. Therefore, prior to mitigation there is potential for this to result in an increase in air pollution as a result of increased vehicle journeys within and connecting to Copeland.</p> <p>The level of housing to be delivered under policies H11PU, H12PU, H13PU, H14PU, H17PU and H18PU are unlikely to be such that these policies in themselves would give rise to LSE, but in combination effects with other housing across the Borough would be possible.</p>				
<p>SC3PU (Playing Fields and Pitches)</p>	<p>These are policies that promote the location of activities at which people</p>			<p>These are policies that promote the location of activities at which people are likely to gather in numbers and</p>	

RE2PU (Equestrian Related Development)	are likely to gather in numbers and that dependent on type and location could result in increased vehicle movements that could have potential to lead to a reduction in air quality on the SAC, in combination with other plans and projects.			that dependent on type and location could result in increased vehicle movements that could have potential to lead to a reduction in air quality on the SAC, SPA and Duddon Estuary Ramsar sites in combination with other plans and projects.	
H4PU (Distribution of Housing) H5PU (Housing Allocations)	Policy H4PU specifically lists Drigg/Holmrook as sustainable rural villages that will deliver a proportion of minimum 248 new dwellings over the lifetime of the Plan. As a result there is potential for increased local vehicle movements and therefore reduced air quality on the SAC. As the A595 road passes within 200m of the SAC, for example, increases in housing at the larger settlements of Whitehaven, Cleator Moor and Egremont, may also result in increased traffic movements past the SAC. Policy H5PU specifically cites relevant housing allocations across the Borough.	Policy H4PU specifically lists Millom as a Key Service Centre that will deliver a proportion of minimum 745 new dwellings over the lifetime of the Plan. As a result of the location of Millom in the south of Copeland, development here is more likely to contribute to increased vehicle movements than settlements further north within Copeland. On a small scale, Haverigg, a local service centre, will deliver a proportion of minimum 422 new dwellings. Policy H5PU specifically cites relevant housing allocations across the Borough. In reality, as the A595 that passes		Policy H4PU specifically lists Millom as a Key Service Centre that will deliver a proportion of minimum 745 new dwellings over the lifetime of the Plan. As a result of the location of Millom in the south of Copeland, development here is more likely to contribute to increased vehicle movements than settlements further north within Copeland. On a smaller scale, Haverigg, a local service centre, will deliver a proportion of minimum 422 new dwellings and Drigg/Holmrook, sustainable rural villages, a proportion of at least 248 new dwellings. Policy H5PU specifically cites relevant housing allocations across the Borough. The SPA lies within 200m of the A595 at the same location as the Drigg Coast SAC, where levels of nitrogen deposition are not currently a cause for concern. In reality, then it is likely that development at these locations and across the Borough could contribute to increased traffic	Policy H4PU specifically lists Millom as a Key Service Centre that will deliver a proportion of minimum 745 new dwellings over the lifetime of the Plan. As a result of the location of Millom in the south of Copeland, development here is more likely to contribute to increased vehicle movements than settlements further north within Copeland. On a small scale, Haverigg, a local service centre, will deliver a proportion of minimum 422 new dwellings. Policy H5PU specifically cites relevant housing allocations across the Borough. In reality, as the A5092 that passes the SAC is one of few links between Copeland and the M6 corridor, then it is likely that development across the Borough could contribute to increased traffic past the SAC.

		Duddon Mosses SAC is one of few links between Copeland and the M6 corridor, then it is likely that development across the Borough could contribute to increased traffic past the SAC.		volumes, but that LSE may only require consideration on stretches of road outside of Copeland.	
E1PU (Economic Growth) E3PU (Westlakes Science and Technology Park) E4PU (Cleator Moor Innovation Quarter at Leconfield) E6PU (Opportunity Sites) E7PU (Safeguarding of Employment Sites)	Dependent on the scale, location and type of facility, employment sites have the potential to attract increased vehicle movements via commuting, that could have potential to contribute to reduced air quality, either alone or in combination with other plans and projects.				
CO2PU (Priorities for Improving Transport Networks Within Copeland)	This policy specifically lists improvements to the A595 road that runs within 200m of the SAC for a short distance. It is possible that such improvements may lead to greater volumes of traffic using the road, which could lead to greater nitrogen deposition on the SAC. It is also true however, that	This policy specifically lists improvements to the A595 road that runs within 200m of the SAC for a short distance. It is possible that such improvements may lead to greater volumes of traffic using the road, including outside of the Borough, which could lead to greater nitrogen deposition on the SAC.		This policy specifically lists improvements to the A595 road that runs within 200m of the SPA for a short distance. It is possible that such improvements may lead to greater volumes of traffic using the road, which could lead to greater nitrogen deposition. It is also true however, that road improvements may lead to reductions in emissions at some locations if they deliver reduced congestion and that improvements may also be possible	

	road improvements may lead to reductions in emissions at some locations if they deliver reduced congestion and that improvements may also be possible in terms of aspects such as enhanced barriers between the source of pollution and the SAC.	It is also true however, that road improvements may lead to reductions in emissions at some locations if they deliver reduced congestion.		in terms of aspects such as enhanced barriers between the source of pollution and the SPA.	
<p>NU1PU (Supporting Development of the Nuclear Sector)</p> <p>NU2PU (Maximising Opportunities from Nuclear Decommissioning)</p> <p>NU3PU (General Nuclear Energy Sector and associated Development and Infrastructure)</p> <p>NU4PU (Nuclear Development at Sellafield)</p>	The policies are focused on development in or related to the Sellafield area, and as this location is in close proximity to the Drigg Coast SAC, any increased vehicle movements arising from development of the nuclear sector could lead to reduced air quality on the SAC, in combination with other plans and projects.	The policies are focused on development in or related to the Sellafield area. However, any increased vehicle movements arising from development of the nuclear sector could lead to reduced air quality on the SAC if commuting from further afield would be significant, in combination with other plans and projects.		The policies are focused on development in or related to the Sellafield area, and as this location is in close proximity to the Morecambe Bay and Duddon Estuary Ramsar, any increased vehicle movements arising from development of the nuclear sector could lead to reduced air quality on the SPA, and potentially the SAC and Ramsar sites if commuting from further afield would be significant, in combination with other plans and projects.	The policies are focused on development in or related to the Sellafield area. However, any increased vehicle movements arising from development of the nuclear sector could lead to reduced air quality on the SAC if commuting from further afield would be significant, in combination with other plans and projects.

## 6.4 Air Quality Assessment

6.4.1 In order to determine whether policies and/or Housing allocations, employment sites and draft opportunity areas within the Publication Draft Local Plan would lead to significant adverse effects on NSN and Ramsar sites considered in Section 6.2, transport modelling, followed by air quality assessment was undertaken for major roads passing within 200m of the NSN and Ramsar sites.

6.4.2 The following road locations were identified for transport modelling:

- A595 - Foxfield, Broughton-in-Furness.
- A5092 - Grizebeck Brow, Grizebeck 'Hill Farm'.
- A66 - between A592 and A5091.
- A591 - Bassenthwaite, Keswick att. Bus Stop at Ravenstone Lodge

6.4.3 Traffic movements generated on these roads by proposed development were modelled for three scenarios:

- Base growth to 2038. This includes developments which have planning permission and live applications with the potential to gain permission soon. Other developments that are likely to gain planning permission and be constructed by 2038 have been included.
- Local Plan growth to 2038. As well as the development in Base scenario, it includes the preferred residential and employment options.
- Local Plan plus additional growth. Include base growth plus the higher level growth indicated in policy H4PU.

6.4.4 The transport modelling indicated that Annual Average Daily Transport (AADT) numbers would decline under on the A591 as a result of Local Plan growth strategies (with or without additional growth). Therefore no air quality modelling was subsequently carried out for this section of road.

6.4.5 Transport modelling indicated a slight decline in road traffic on the A66 as a result of the Local Plan, but once additional growth was added to account for higher level Plan allocations, then a slight increase was predicted. Under both Local Plan and Local Plan plus additional growth scenarios, vehicle numbers increased on the A595 and A5092 road sections on which

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modelling was carried out. Therefore air quality modelling was subsequently carried out for these sections of road. Table 6.3 indicates the modelled transport figures.

**Table 6.3: Modelled transport movements on roads under future growth scenarios in Copeland**

ADT (vehicles per day)			
Road	Base growth	Local Plan growth	Local Plan high growth
A595	7890	8064	8349
A5092	9400	9502	9788
A66	17756	17634	18038
A591	4743	4738	4711

6.4.6 Air quality calculations were therefore undertaken<sup>23</sup> and the methodology and results are presented in Appendix 2. The Local Plan growth and Local Plan high growth scenarios are compared to the Base growth to determine whether critical loads for nitrogen or acid deposition and critical levels for NOx and ammonia are significantly different as a result of the Local Plan growth. Should the predicted air quality change as a result of growth within Copeland under the Local Plan exceed 1% of the critical level (for NOx and ammonia) or load (for nitrogen and acid deposition) then a significant effect cannot be ruled out as a result of air quality reductions in combination with other plans and projects.

6.4.7 The air quality calculations presented in Appendix 2 indicate that when comparing the situation in 2038 to the current baseline (2021), a net improvement in air quality (NOx) is anticipated. The modelling has been undertaken taking into account both current and future predicted background changes in atmospheric pollutant concentrations and vehicle emission rates. However, with the exception of NOx, future predictions of other pollutant background

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<sup>23</sup> Redmore Environmental, 2021. Ecological Air Quality Assessment Copeland Local Plan.

levels were not available to model. Therefore with the exception of NO<sub>x</sub>, results based on 2038 projected background pollution levels are likely to be very much a worst-case scenario.

6.4.8 Tables 6.4 and 6.5 illustrate a summary of the outcomes presented in Appendix 2.

**Table 6.4: Air quality modelling summary for future growth scenarios based on 2021 background levels of pollutants**

	NO <sub>x</sub> (oxides of nitrogen)		Nitrogen deposition		NH <sub>3</sub> (ammonia)		Acid deposition	
	Local Plan	Local Plan High Growth	Local Plan	Local Plan High Growth	Local Plan	Local Plan High Growth	Local Plan	Local Plan High Growth
Duddon Mosses Sac (A595)	No breaches of 1% CL	No breaches of 1% CL	No breaches of 1% CL	No breaches of 1% CL	No breaches of 1% CL	No breaches of 1% CL	No breaches of 1% CL	No breaches of 1% CL
Lake District High Fells SAC (A66)	No breaches of 1% CL	No breaches of 1% CL	No breaches of 1% CL	No breaches of 1% CL	No breaches of 1% CL	No breaches of 1% CL	No breaches of 1% CL	No breaches of 1% CL
Subberthwaite, Blawith and Torver Low Commons SAC (A5092)	No breaches of 1% CL	No breaches of 1% CL	No breaches of 1% CL	No breaches of 1% CL	No breaches of 1% CL	Breach at 100m and 150m from roadside	No breaches of 1% CL	No breaches of 1% CL

**Table 6.5: Air quality modelling summary for future growth scenarios based on 2038 background levels of pollutants**

	NO <sub>x</sub> (oxides of nitrogen)		Nitrogen deposition		NH <sub>3</sub> (ammonia)		Acid deposition	
	Local Plan	Local Plan High Growth	Local Plan	Local Plan High Growth	Local Plan	Local Plan High Growth	Local Plan	Local Plan High Growth
Duddon Mosses Sac (A595)	No breaches of 1% CL	No breaches of 1% CL	No breaches of 1% CL	Breach at 150m and 200m from roadside	No breaches of 1% CL	Breach up to 150m from roadside	No breaches of 1% CL	Breach up to 150m from roadside
Lake District High Fells SAC (A66)	No breaches of 1% CL	No breaches of 1% CL	No breaches of 1% CL	No breaches of 1% CL	No breaches of 1% CL	No breaches of 1% CL	No breaches of 1% CL	Breach at 200m from roadside
Subberthwaite, Blawith and Torver Low Commons SAC (A5092)	No breaches of 1% CL	No breaches of 1% CL	Breach at roadside	Breach up to 100m from roadside	Breach at roadside	Breach at 150m and 200m from roadside	Breach at roadside and 150m from roadside	Breach at 150m and 200m from roadside

6.4.9 Therefore it can be seen that taking into account current background levels of pollution, only under the high growth Local Plan scenario is there an increase in any pollutant to greater than 1% of critical loads/levels. This is the case at up to 150m from the roadside at Subberthwaite, Blawith and Torver Low Commons SAC and ammonia is the pollutant.

6.4.10 Taking projected background improvements by 2038 into account, then comparatively, there are exceedances of the 1% threshold as a result of future high level growth on both Subberthwaite, Blawith and Torver Low Commons SAC and Duddon Mosses SAC due to nitrogen deposition, ammonia and acid deposition. There is also an exceedance of 1% of the critical load for acid deposition at the Lake District High Fells SAC. Under the lower growth scenario only Subberthwaite, Blawith and Torver Low Commons SAC is affected, by nitrogen deposition, ammonia and acid deposition.

6.4.11 Even taking into account the worst-case 2038 background levels of pollutants, exceedance is only apparent at less than 200m from the roadside in most scenarios. It is estimated that approximately 2% of the Duddon Mosses SAC lies within 200m of the A595, and 1% of Subberthwaite, Blawith and Torver Low Commons SAC within 200m of the A5092. The percentage of the Lake District High Fells within 200m of the A66 is far less still. Within these small areas that lie within 200m of the roads in question then any effects from traffic pollutants are likely to be subtle as the area closest to the roadside is the area most likely to

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be already affected by other factors such as runoff, drainage and previous impacts of the road construction/repairs.

- 6.4.12 The air quality assessment report (Appendix 2) is clear that background scenarios for 2038 are very much a worst-case scenario based on factors beyond the control of the Local Plan. It is also clarified that ammonia pollution in 2038 compared to 2021 should specifically be treated with caution. There is an acknowledgement that national policy to reduce ammonia levels, particularly from the agricultural sector are likely to result in overall reductions in emissions. Therefore the following sections of this Chapter are focussed on the findings of the air quality assessment report based on current background levels of pollutants.

## 6.5 Mitigation

- 6.5.1 There are policies within the Local Plan that provide protective measures to assist in avoiding or mitigating potential for LSE on NSN and Ramsar sites, through reduced air quality.
- 6.5.2 As an overarching protection, policy DS1PU (Presumption in Favour of Sustainable Development) will need to be compliant with the NPPF, and the policy indicates that applications will be approved without delay *“unless material considerations indicate otherwise.”* Material considerations relating to the presumption in favour of sustainable development are laid out in the NPPF that indicates that *‘the presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site’*. Therefore for individual applications, a protective umbrella of requiring the plan or project to ensure no LSE on NSN and Ramsar sites will be in place.
- 6.5.3 Site allocations are however, dependent on the deliverability of policies within the Local Plan, and therefore the Local Plan itself needs to demonstrate no LSE on NSN and Ramsar sites. Policy N1PU (Conserving and Enhancing Biodiversity and Geodiversity) seeks to ensure that *‘potential harmful impacts of any development upon biodiversity and geodiversity must be identified and considered at the earliest stage. Proposals must demonstrate, to the satisfaction of the Council, that the following sequential steps have been undertaken*

**Avoidance** – *Biodiversity and geodiversity must be considered when drafting up proposals and any potential harmful effects on biodiversity and geodiversity must be identified along with appropriate measures that will be taken to avoid these effects.*

**Mitigation** – *Where harmful effects cannot be avoided, they must be appropriately mitigated in order to overcome or reduce negative impacts.*

**Compensation** – *Where mitigation is not possible or viable or in cases where residual harm would remain following mitigation, harmful effects should be compensated for. Where this is in the form of compensatory habitat of an area of equivalent or greater biodiversity value*

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*should be provided. Compensation is a last resort and will only be accepted in exceptional circumstances.*

*Where harm remains to a NSN and Ramsar site, development will only be approved where it can be demonstrated that there are imperative reasons of overriding public interest. In such cases, compensatory measures must ensure the overall coherence of the network of European sites as a whole is protected.'*

This policy provides explicit protection to biodiversity, including NSN and Ramsar sites, in line with the ethos of policy DS1PU. The Local Plan also states that the plan must be read as a whole and therefore it is the case that all other policies must be considered as cross-referencing DS1PU and N1PU.

- 6.5.4 The Publication Draft Local Plan includes a specific policy DS11PU (Protecting Air Quality) that provides the precautionary text *“development proposals will only be granted planning permission where they will not give rise to unacceptable levels of air pollution. Unacceptable levels include those that would potentially lead to likely significant effects on National Site Network and Ramsar sites where mitigation is not possible.”*
- 6.5.5 This policy also addresses the issue of ammonia emissions from agriculture by including that *“applications for new or extended farming developments must include details of measures to reduce ammonia, where possible.”* The plan itself does not advocate agricultural development specifically and does not include employment site allocations that would be likely to involve increases as a result of agricultural ammonia emissions.
- 6.5.6 With regards to reduced air quality, CO4PU (Sustainable Travel) does commit that developments that would potentially generate large volumes of traffic movements would require a transport assessment and travel plan. This policy also promotes increased walking and cycling, sustainable transport of freight and increased facilities for the use of electric vehicles. Both policies CO2PU and CO3PU advocate transport improvements that would reduce journey times, a corollary of which is reduced congestion, and therefore reduced air pollution arising from stationary or slow moving vehicles. Policies DS6PU (Design and Development Standards), and CO2PU promote access to walking and cycling opportunities.
- 6.5.7 Policies H4PU and H5PU that define the need for delivery of housing numbers at specified locations and individual allocations is therefore compliant with other Plan policies, including N1PU, where development must result in no LSE on NSN and Ramsar sites, both alone and in combination with other plans and projects.
- 6.5.8 Policies H15PU (Rural Exception Sites) H16PU (Essential Dwellings for Rural Workers) state that developments must not result in a significant adverse impact on biodiversity. In order to ensure no LSE arises as a result of policies H11PU (Community-led, Self build and custom build housing), H12PU (Residential Establishments, including Specialist, older person housing and purpose built student and key-worked accommodation), H13PU (Conversion and sub-division of buildings to residential uses including large HMO's), H14PU (Domestic Extensions and Alterations), H17PU (Conversion of Rural Buildings to Residential Use) and H18PU

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(Replacement Dwellings outside Settlement Boundaries), the policies must be considered in the context of the Plan overall, including policy N1PU.

- 6.5.9 The need for the Plan to be considered as a whole also ensures that economic policies must also be compliant with N1PU. Additionally, policy E2PU (Location of Employment) effectively mitigates policy E5PU (Employment Sites and Allocations) through stating that “*where the following impacts occur, development will only be supported where the mitigation measures proposed are deemed by the Council to make the development acceptable....impact on biodiversity*”. Policies E5PU and E6PU (Opportunity Sites) clarify that in order to comply with policy E2PU, project-level HRA may be needed.
- 6.5.10 Policies NU1PU (Supporting Development of the Nuclear Sector), NU2PU (Maximising Opportunities from Nuclear Decommissioning) and NU3PU (General Nuclear Energy Sector and associated Development and Infrastructure) should add that for large scale renewable energy projects or related economic schemes, then it is highly likely that project-specific HRAs will be necessary.
- 6.5.11 Given the above policy measures, and the uncertainty surrounding the accuracy of any projected background changes in nitrogen deposition, acid deposition and ammonia deposition by 2038, it is considered that sufficient mitigation

## **6.6 Site Allocations**

- 6.6.1 All site allocations and opportunity areas within Copeland have the potential, if not alone, then in combination with other plans and projects, to lead to likely significant effects on NSN and/or Ramsar sites through reduced air quality. Therefore mitigation is more appropriately considered at the strategic level as discussed in Section 6.5.

## **6.7 In Combination Effects**

- 6.7.1 Although the Drigg Coast SAC could in theory be vulnerable to reduced air quality in combination with increased development outside of Copeland, its location means that in combination effects are not likely through increases in road traffic.
- 6.7.2 The Lake District High Fells SAC, Morecambe Bay SAC, Morecambe Bay and Duddon Estuary SPA, Duddon Estuary Ramsar, Morecambe Bay Ramsar, and Solway Firth SPA all lie wholly or partly within other local authority boundaries and hence are vulnerable to reduced air quality in combination with increased development outside of Copeland.
- 6.7.3 No individual Housing allocations, employment sites and draft opportunity areas have been identified that would lead to LSE on the Drigg Coast SAC, Duddon Mosses SAC, Lake District High Fells SAC, Morecambe Bay SAC, Morecambe Bay and Duddon Estuary SPA, Duddon Estuary Ramsar, Morecambe Bay Ramsar, River Derwent and Bassenthwaite Lake SAC, or Subberthwaite, Blawith and Torver Low Commons SAC through reduced air quality, and the Local Plan’s contribution to any in combination effects highlighted through the screening

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stage of Appropriate Assessment are addressed at policy level within the Local Plan and the mitigation proposed in this report to inform a HRA.

## **6.8 Conclusion**

- 6.8.1 It is considered that taking into account the susceptibilities of the NSN and Ramsar sites assessed, the air quality assessment undertaken, protective policies already embedded into the Local Plan, and proposed mitigation, which has now been taken into account in producing the Publication Draft Local Plan, no LSE will remain on any NSN and Ramsar site, either alone or in combination with other plans and projects, as a result of reduced air quality.

## 7 Appropriate Assessment - Water Quality

### 7.1 NSN and Ramsar Sites Screened Out

- 7.1.1 The following NSN and Ramsar sites do not require further Appropriate Assessment due to potential LSE that might arise from Copeland's Local Plan either alone or in combination with other plans and projects.

**Table 7.1: NSN and Ramsar sites screened out of HRA through the pathway of reduced water quality.**

NSN and Ramsar Site	Reason for Screening Out
Borrowdale Woodland Complex SAC	Outside of zone of influence for water quality.
Clints Quarry SAC	Outside of zone of influence for water quality.
Duddon Mosses SAC	Potentially vulnerable to traffic pollution events, but outside the control of Copeland's Local Plan
Lake District High Fells SAC	Not sensitive to water quality reduction.
North Pennine Dales Meadows SAC	Outside of zone of influence for water quality.
Roudsea Wood and Mosses SAC	Outside of zone of influence for water quality.
Subberthwaite, Blawith and Torver Low Commons SAC	Potentially vulnerable to traffic pollution events, but outside the control of Copeland's Local Plan.
Wast Water SAC	Vulnerable to water quality reductions, but no likely pathway exists.
Yewbarrow Woods SAC	Outside of zone of influence for water quality.
Esthwaite Water Ramsar	Vulnerable to water quality reductions, but no likely pathway exists.
Morecambe Bay Ramsar	Outside of zone of influence for water quality.

### 7.2 NSN and Ramsar Sites Screened In for Appropriate Assessment

- 7.2.1 The following NSN and Ramsar sites have been screened in as requiring consideration through Appropriate Assessment due to the potential for LSE from reduced water quality arising from the policies and/or Housing allocations, employment sites and draft opportunity areas included within the Local Plan.

#### Drigg Coast SAC

- 7.2.2 The SAC lies within Copeland and is designated for habitats that are vulnerable to changes in water quality.
- 7.2.3 The waste-water treatment works (WwTW) closest to the SAC is Seascale, and at the time of the production of the HRA of Copeland's Core Strategy in 2012, United Utilities were able to

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confirm no anticipated constraints to the scale of development proposed. The Site Improvement Plan for the SAC does not include water quality as a threat to be addressed.

Morecambe Bay SAC, Morecambe Bay and Duddon Estuaries SPA and Duddon Estuary Ramsar

7.2.4 These sites lie partly within Copeland and are designated for habitats or include habitats that support designated species that are vulnerable to changes in water quality.

7.2.5 At the time of the production of the HRA of Copeland's Core Strategy in 2012, United Utilities were able to confirm no anticipated constraints to the scale of development proposed at Millom due to a planned upgrade of the receiving WwTW. This would also account for growth at Haverigg. The WwTW closest to Drigg/Holmrook is Seascale, and at the time of the production of the HRA of Copeland's Core Strategy in 2012, United Utilities were able to confirm no anticipated constraints to the scale of development proposed.

River Derwent and Bassenthwaite Lake SAC

7.2.6 This site lies partly within Copeland where the headwaters of the river arise and is designated for habitats that are vulnerable to changes in water quality. The SAC is also vulnerable to traffic pollution incidents at Bassenthwaite Lake as this lies adjacent to the A66 road, but this is outside of Copeland and outside the remit of the Local Plan to mitigate. At the time of the production of the HRA of Copeland's Core Strategy in 2012, there were no anticipated constraints through WwTW capacity due to the topography of the land in relation to receiving water courses meaning no discharges into the relevant water courses for this SAC.

River Ehen SAC

7.2.7 This site lies within Copeland and is designated for habitats and species that are vulnerable to changes in water quality. At the time of the production of the HRA of Copeland's Core Strategy in 2012, Cleator Moor Treatment Works was operating at restricted capacity. The Cleator Moor works are now complete, and there is no indication of any current capacity difficulties.

Solway Firth SPA

7.2.8 This site lies partly within Copeland and is designated for bird species that are vulnerable to habitat changes arising from altered water quality. Discharges to the marine environment could have potential to lead to reduced water quality on the SPA, although the large area and tidal nature of the SPA mean that this is likely to require consideration only in combination with other plans and projects outside of Copeland.

### **7.3 Policies Screened In as Requiring Appropriate Assessment**

7.3.1 Policies that could lead to likely significant effects alone and in combination through reduced water quality are shown in the following table.

**Table 7.2: Policies with potential to lead to LSE on NSN and Ramsar sites through the pathway of reduced water quality.**

Policy	Drigg Coast SAC	Morecambe Bay SAC, Morecambe Bay and Duddon Estuary SPA, and Duddon Estuary Ramsar	River Derwent and Bassenthwaite Lake SAC	River Ehen SAC	Solway Firth SPA
<b>Reasons for Screening In</b>					
DS4PU (Settlement Boundaries)	This policy promotes development that includes an increase in housing numbers across the Borough. Increased housing numbers will lead to an increased demand on WwTW capacity. Therefore, prior to mitigation there is potential for this to result in a reduction in water quality through discharges into aquatic habitats.				
DS3PU (Settlement Hierarchy)	This policy specifically lists Drigg/Holmrook as sustainable rural villages with Council support for development at these locations. These settlements are in close proximity to the SAC and therefore an increase in housing at these locations, prior to mitigation, has the potential to lead to a reduction in water quality on the SAC in the event that WwTW capacity would be affected.	This policy specifically lists Millom as a Key Service Centre, Haverigg as Local Service Centre and Drigg/Holmrook as sustainable rural villages with Council support for development at these locations. These settlements are in close proximity to the SAC, SPA and Ramsar site and therefore an increase in housing at these locations, prior to mitigation, has the potential to lead to a reduction in water quality on the SAC, SPA and Ramsar sites in the event that WwTW capacity would be affected.		This policy specifically lists Cleator Moor as a Key Service Centre with Council support for development at this location. The Local Service Centres of Cleator, Arlecdon & Rowrah, and Frizington and the Rural Village of Kirksanton also lie in close proximity to the SAC or watercourses that feed into the SAC and therefore an increase in housing at these locations, prior to mitigation, has the potential to lead to a reduction in water quality on the SAC through run-off or through increased pressure on WwTW capacity.	This policy specifically lists Whitehaven as the Principal Town with Council support for development at this location. An increase in housing at this location, prior to mitigation, has the potential to lead to a reduction in water quality on the SAC through increased pressure on WwTW capacity.

H2PU (Housing Requirement)	These policies promote an increase in housing numbers generally across the Borough, with policy H2PU stating a need for 2,482 net additional dwellings by 2038. Therefore, prior to mitigation there is potential for this to result in a decrease in water quality as a result.
H6PU (New Housing Development)	The level of housing to be delivered under policies H11PU, H12PU, H13PU, H14PU, H17PU and H18PU and RE1PO are unlikely to be such that these policies in themselves would give rise to LSE, but in combination effects with other housing across the Borough would be possible.
H11PU (Community-led, Self build and custom build housing)	
H12PU (Residential Establishments, including Specialist, older person housing and purpose built student and key-worked accommodation)	
H13PU (Conversion and sub-division of buildings to residential uses including large HMO's)	
H14PU (Domestic Extensions and Alterations)	
H17PU (Conversion of Rural Buildings to Residential Use)	
H18PU (Replacement Dwellings outside Settlement Boundaries)	
RE1PU (Agricultural Buildings)	
R2PU (Hierarchy of Town Centres)	

<p>H4PU (Distribution of Housing)</p> <p>H5PU (Housing Allocations)</p>	<p>Policy H4PU specifically lists Drigg/Holmrook as sustainable rural villages that will deliver a proportion of minimum 248 new dwellings over the lifetime of the Plan. As a result there is potential for increased local pressure on receiving WwTW and therefore reduced water quality of the SAC. Policy H5PU specifically cites relevant housing allocation sites across the Borough.</p>	<p>Policy H4PU specifically lists Millom as a Key Service Centre that will deliver a proportion of minimum 745 new dwellings over the lifetime of the Plan. On a smaller scale, Haverigg, a local service centre, will deliver a proportion of minimum 422 new dwellings, and and Drigg/Holmrook, sustainable rural villages, a proportion of at least 248 new dwellings. As a result there is potential for increased local pressure on receiving WwTW and therefore reduced water quality of the SAC, SPA and Ramsar sites. Policy H5PU specifically cites relevant housing allocation sites across the Borough.</p>	<p>Policy H5PU specifically cites relevant housing allocation sites across the Borough.</p>	<p>Policy H4PU specifically lists Cleator Moor as a Key Service Centre that will deliver a proportion of minimum 745 new dwellings over the lifetime of the Plan. Cleator, Arlecdon &amp; Rowrah and Frizington are Local Service Centres that will deliver a proportion of minimum 422 new dwellings over the lifetime of the Plan. Kirksanton is listed as a Rural Village that will deliver a proportion of maximum 76 new dwellings over the lifetime of the Plan. These settlements all lie in close proximity to the SAC or watercourses that feed into the SAC and therefore an increase in housing at these locations, prior to mitigation, has the potential to lead to a reduction in water quality on the SAC through run-off or through increased pressure on receiving WwTW. Policy H5PU specifically cites relevant housing allocation sites across the Borough.</p>	<p>Policy H4PU specifically lists Whitehaven as the Principal Town that will deliver minimum 993 new dwellings over the lifetime of the Plan. This has the potential to lead to a reduction in water quality on the SPA through increased pressure on receiving WwTW. Policy H5PU specifically cites relevant housing allocation sites across the Borough.</p>
<p>E1PU (Economic Growth)</p> <p>E7PU (Safeguarding of Employment Sites)</p>	<p>Dependent on the scale, location and type of facility, employment sites have the potential to create increased pressure on receiving WwTW, that could have potential to contribute to reduced water quality, either alone or in combination with other plans and projects.</p>				

<p>E3PU (Westlakes Science and Technology Park)</p> <p>E4PU (Cleator Moor Innovation Quarter at Leconfield)</p>			<p>Reduced water quality as a result of polluted run-off cannot be screened out.</p>	
<p>NU1PU (Supporting Development of the Nuclear Sector)</p> <p>NU2PU (Maximising Opportunities from Nuclear Decommissioning)</p> <p>NU3PU (General Nuclear Energy Sector and associated Development and Infrastructure)</p> <p>NU4PU (Nuclear Sector Development at Sellafield)</p>	<p>Dependent on the scale, location and type of facility, energy sites have the potential to create changes in water quality. In particular, any technologies that involve use of sea water to supply cooling water or that discharge to receiving coastal waters, or that involve infrastructure provision offshore, can affect water quality through mechanisms such as altered water temperatures, and altered patterns of accretion and erosion.</p>			

## 7.4 Mitigation

- 7.4.1 There are policies within the Local Plan that provide protective measures to assist in avoiding or mitigating potential for LSE on NSN and Ramsar sites, through reduced water quality.
- 7.4.2 As an overarching protection, policy DS1PU (Presumption in Favour of Sustainable Development) will need to be compliant with the NPPF, and the policy indicates that applications will be approved without delay *“unless material considerations indicate otherwise.”* Material considerations relating to the presumption in favour of sustainable development are laid out in the NPPF that indicates that *‘the presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site’*. Therefore for individual applications, a protective umbrella of requiring the plan or project to ensure no LSE on NSN and Ramsar sites will be in place.
- 7.4.3 Site allocations are however, dependent on the deliverability of policies within the Local Plan, and therefore the Local Plan itself needs to demonstrate no LSE on NSN and Ramsar sites. Policy N1PU (Conserving and Enhancing Biodiversity and Geodiversity) seeks to ensure that *‘potential harmful impacts of any development upon biodiversity and geodiversity must be identified and considered at the earliest stage. Proposals must demonstrate, to the satisfaction of the Council, that the following sequential steps have been undertaken.*

**Avoidance** – *Biodiversity and geodiversity must be considered when drafting up proposals and any potential harmful effects on biodiversity and geodiversity must be identified along with appropriate measures that will be taken to avoid these effects.*

**Mitigation** – *Where harmful effects cannot be avoided, they must be appropriately mitigated in order to overcome or reduce negative impacts.*

**Compensation** – *Where mitigation is not possible or viable or in cases where residual harm would remain following mitigation, harmful effects should be compensated for. Where this is in the form of compensatory habitat of an area of equivalent or greater biodiversity value should be provided. Compensation is a last resort and will only be accepted in exceptional circumstances.*

*Where harm remains to a NSN and Ramsar site, development will only be approved where it can be demonstrated that there are imperative reasons of overriding public interest. In such cases, compensatory measures must ensure the overall coherence of the network of European sites as a whole is protected.’*

This policy provides explicit protection to biodiversity, including NSN and Ramsar sites, in line with the ethos of policy DS1PU. The Local Plan also states that the plan must be read as a

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whole and therefore it is the case that all other policies must be considered as cross-referencing DS1PU and N1PU.

- 7.4.4 Policies H4PU and H5PU that define the need for delivery of housing numbers at specified locations and individual allocations is therefore compliant with other Plan policies, including N1PU, where development must result in no LSE on NSN and Ramsar sites, both alone and in combination with other plans and projects.
- 7.4.5 Policies H15PU (Rural Exception Sites) H16PU (Essential Dwellings for Rural Workers) state that developments must not result in a significant adverse impact on biodiversity. In order to ensure no LSE arises as a result of policies H11PU (Community-led, Self build and custom build housing), H12PU (Residential Establishments, including Specialist, older person housing and purpose built student and key-worked accommodation), H13PU (Conversion and sub-division of buildings to residential uses including large HMO's), H14PU (Domestic Extensions and Alterations), H17PU (Conversion of Rural Buildings to Residential Use) and H18PU (Replacement Dwellings outside Settlement Boundaries), the policies must be considered in the context of the Plan overall, including policy N1PU.
- 7.4.6 The need for the Plan to be considered as a whole also ensures that economic policies must also be compliant with N1PU. Additionally, policy E2PU (Location of Employment) effectively mitigates policy E5PU (Employment Sites and Allocations) through stating that *“where the following impacts occur, development will only be supported where the mitigation measures proposed are deemed by the Council to make the development acceptable...impact on biodiversity”*. Policies E5PU and E6PU (Opportunity Sites) clarify that in order to comply with policy E2PU, project-level HRA may be needed. Project-level HRA will be required for policies E3PU (West Lakes Science and Technology Park) and E4PU (Cleator Moor Innovation Quarter at Leconfield) as these policies are site-specific and in both cases there is potential for LSE on the River Ehen SAC.
- 7.4.7 The Publication Draft Local Plan includes policy N5PU (Protection of Watercourses). This commits to *“new development must seek to protect or improve the quality of surface and groundwater water resources. New development should ensure there is sufficient water resource available to meet current and future needs, without putting the environment at risk.”* The policy commits to a specific requirement for new development to not be operational or occupied until such time as adequate waste water infrastructure has been provided.
- 7.4.8 Policy DS8PU (Reducing Flood Risk) usefully adds that new development that incorporates flood mitigation strategies must ensure that no adverse effects on water quality will result.
- 7.4.9 Policies NU1PU (Supporting Development of the Nuclear Sector), NU2PU (Maximising Opportunities from Nuclear Decommissioning) and NU3PU (General Nuclear Energy Sector and associated Development and Infrastructure) should add that for large scale renewable energy projects or related economic schemes, then it is highly likely that project-specific HRAs will be necessary.
- 7.4.10 With regards to reduced water quality, policy N8PU (The Undeveloped Coast) does seek to ensure that energy generating development must assess impacts on biodiversity against benefits and must mitigate or compensate for likely negative impacts. The need for

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compliance with other Plan policies including N1PU will ensure that projects will only be supported where harm to NSN and Ramsar sites can be avoided, mitigated or as a last resort compensated for.

- 7.4.11 Policy N4PU (Marine Planning) ensures that new development that has the potential to harm the marine environment must have consideration the North West Marine Plan and policies therein. The policy notes that the Marine Plan operates at a high level planning tier and therefore environmental assessment at the project level may still be required.

## 7.5 Site Allocations

- 7.5.1 Housing allocations have been identified that could lead to LSE on the Drigg Coast SAC, through reduced water quality. These are HDH2 and HDH3, located at Drigg/Holmrook, and the effects identified are in combination. The risk identified is the proximity of the sites to watercourses that feed into the SAC, and thus the deliverability of these allocations will require project-specific HRA in order to demonstrate avoidance of water pollution.
- 7.5.2 United Utilities have been consulted on the proposed allocations contained within the Preferred Options Local Plan. They have raised concerns with only one location, HDH2, stating that *“accompanied by the north Meadowbrook site, the additional properties is considered significant in comparison to the existing settlement size and the existing wastewater infrastructure that serves it.”* The north Meadowbrook site has not been taken forward however. The HDH2 allocation will require project-level HRA to confirm that it is deliverable within the capacity of existing waste water infrastructure treatment, or that it is deliverable once upgrades to the existing infrastructure are undertaken.
- 7.5.3 Housing allocations and employment sites have been identified that could lead to LSE on the Morecambe Bay SAC, Morecambe Bay and Duddon Estuary SPA and Duddon Estuary Ramsar, through reduced water quality. These are those located at Millom (employment sites Mi042/E2, ELA5 and Devonshire Road) and Drigg/Holmrook (Dh 007a and HDH2), and the effects identified are in combination. The risk identified is the proximity of the sites to the designations themselves or to watercourses that feed into them, and thus the deliverability of these allocations will require project-specific HRA in order to demonstrate avoidance of water pollution.
- 7.5.4 Housing allocations, employment sites and draft opportunity areas have been identified that could lead to LSE on the River Ehen SAC, through reduced water quality. Housing allocations are those located at Cleator Moor (HCM1, HCM2, HCM3, HCM4), Egremont (HEG2, HEG3), and Beckermat (HBE1, HBE2). Employment sites are those at Cleator Moor (Cm084), Egremont (Eg055, E9), Frizington (Fr032), and Westlakes Science Park. Draft opportunity areas are at Cleator (Cl005) and Egremont (Eg054, Eg064 and EEOS1). The risk identified is the proximity of the sites to the watercourses that feed into the SAC or to the SAC itself, or lie downstream from the SAC, but form part of the migratory route for Atlantic salmon, and thus the deliverability of these allocations will require project-specific HRA in order to demonstrate avoidance of water pollution.
- 7.5.5 Housing allocations and draft opportunity areas have been identified that could lead to LSE on the Solway Firth SPA, through reduced water quality. Housing allocations are those

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located at Whitehaven (HWH4, HWH5, HWH6) and are all considered unlikely to lead to LSE alone, but could in combination with other developments. Draft opportunity areas (Wt013, Wt019, Wt030, WEOS1, WTC1 and WTC4) all lie in close proximity to the coast and the SPA and therefore there is a risk of direct run-off of pollution into the SPA. The risk identified is the proximity of the sites to the SPA, and thus the deliverability of these allocations will require project-specific HRA in order to demonstrate avoidance of water pollution.

## **7.6 In Combination Effects**

- 7.6.1 The Morecambe Bay SAC, Morecambe Bay and Duddon Estuary SPA, Duddon Estuary Ramsar, Morecambe Bay Ramsar, River Derwent and Bassenthwaite Lake SAC, River Ehen SAC, and Solway Firth SPA all lie wholly or partly within other local authority boundaries and hence are vulnerable to reduced water quality in combination with increased development outside of Copeland.
- 7.6.2 Individual sites have been identified that could lead to LSE on the Drigg Coast SAC, Morecambe Bay SAC, Morecambe Bay and Duddon Estuary SPA, Duddon Estuary Ramsar, Morecambe Bay Ramsar, River Ehen SAC, and Solway Firth SPA through reduced water quality, and these will be addressed through project-specific HRAs. The Local Plan's contribution to any in combination effects highlighted through the screening stage of Appropriate Assessment are addressed at policy level within the Local Plan and the mitigation proposed in this report to inform a HRA.

## **7.7 Conclusion**

- 7.7.1 It is considered that taking into account the susceptibilities of the NSN and Ramsar sites assessed, protective policies already embedded into the Local Plan, and proposed mitigation, which has now been taken into account in producing the Publication Draft Local Plan, no LSE will remain on any NSN and Ramsar site, either alone or in combination with other plans and projects, as a result of reduced water quality.

## 8 Appropriate Assessment - Urbanisation

### 8.1 NSN and Ramsar Sites Screened Out

8.1.1 The following NSN and Ramsar sites do not require further Appropriate Assessment due to potential LSE that might arise from Copeland's Local Plan either alone or in combination with other plans and projects.

**Table 8.1: NSN and Ramsar sites screened out of HRA through the pathway of urbanisation.**

NSN and Ramsar Site	Reason for Screening Out
Borrowdale Woodland Complex SAC	Outside of zone of influence for urbanisation.
Clints Quarry SAC	Outside of zone of influence for urbanisation.
Drigg Coast SAC	Urbanisation (fly tipping) unlikely to be significant due to habitats present and size of the SAC.
Duddon Mosses SAC	Outside of zone of influence for urbanisation.
Lake District High Fells SAC	Outside of zone of influence for urbanisation.
Morecambe Bay SAC	Urbanisation (fly tipping) unlikely to be significant due to habitats present and size of the SAC.
North Pennine Dales Meadows SAC	Outside of zone of influence for urbanisation.
River Derwent and Bassenthwaite Lake SAC	Outside of zone of influence for urbanisation.
Roudsea Wood and Mosses SAC	Outside of zone of influence for urbanisation.
Subberthwaite, Blawith and Torver Low Commons SAC	Outside of zone of influence for urbanisation.
Wast Water SAC	Outside of zone of influence for urbanisation.
Yewbarrow Woods SAC	Outside of zone of influence for urbanisation.
Morecambe Bay and Duddon Estuary SPA	Urbanisation (fly tipping) unlikely to be significant due to habitats present and size of the SPA.
Solway Firth SPA	Urbanisation (fly tipping) unlikely to be significant due to habitats present and size of the SPA.
Duddon Estuary Ramsar	Urbanisation (fly tipping) unlikely to be significant due to habitats present and size of the Ramsar site.
Esthwaite Water Ramsar	Outside of zone of influence for urbanisation.
Morecambe Bay Ramsar	Outside of zone of influence for urbanisation.

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## **8.2 NSN and Ramsar Sites Screened In for Appropriate Assessment**

8.2.1 The following NSN and Ramsar sites have been screened in as requiring consideration through Appropriate Assessment due to the potential for LSE from urbanisation arising from the policies and/or sites included within the Local Plan.

### River Ehen SAC

8.2.2 The habitats and species for which the River Ehen SAC is designated require unpolluted environments and fly-tipping poses a risk both through polluted materials entering the watercourse and through introduction of invasive species.

8.2.3 The Site Improvement Plan for the SAC<sup>24</sup> identifies measures to address the threat of non-native species, including educational programmes, biosecurity plans and training volunteers.

## **8.3 Policies Screened In as Requiring Appropriate Assessment**

8.3.1 Policies that could lead to likely significant effects alone and in combination through urbanisation are shown in the following table.

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<sup>24</sup> <http://publications.naturalengland.org.uk/publication/6203335036108800>

**Table 8.2: Policies with potential to lead to LSE on NSN and Ramsar sites through the pathway of urbanisation.**

Policy	River Ehen SAC
	Reasons for Screening In
DS4PU (Settlement Boundaries)	This policy promotes development that includes an increase in housing numbers across the Borough. Therefore, prior to mitigation there is potential for this to result in an increase in urbanisation on the SAC.
DS3PU (Settlement Hierarchy)	This policy specifically lists Cleator Moor as a Key Service Centre with Council support for development at this location. The Local Service Centre of Cleator also lies in close proximity to the SAC and therefore an increase in housing at these locations, prior to mitigation, has the potential to lead to LSE on the SAC.
<p>H2PU (Housing Requirement)</p> <p>H3PU (Housing Delivery)</p> <p>H6PU (New Housing Development)</p> <p>H11PU (Community-led, Self build and custom build housing)</p> <p>H12PU (Residential Establishments, including Specialist, older person housing and purpose built student and key-worked accommodation)</p> <p>H13PU (Conversion and sub-division of buildings to residential uses including large HMO's)</p> <p>H14PU (Domestic Extensions and Alterations)</p>	<p>These policies all promote an increase in housing numbers across the Borough. Therefore, prior to mitigation there is potential for this to result in urbanisation on the River Ehen SAC dependent on location.</p>

<p>H17PU (Conversion of Rural Buildings to Residential Use)</p> <p>H18PU (Replacement Dwellings outside Settlement Boundaries)</p> <p>RE1PU (Agricultural Buildings)</p> <p>R2PU (Hierarchy of Town Centres)</p>	
<p>H4PU (Distribution of Housing)</p> <p>H5PU (Housing Allocations)</p>	<p>Policy H4PU specifically lists Cleator Moor as a Key Service Centre that will deliver a proportion of minimum 745 new dwellings over the lifetime of the Plan. Cleator will deliver a proportion of minimum 422 new dwellings over the lifetime of the Plan. These settlements lie in close proximity to the SAC and therefore an increase in housing at these locations, prior to mitigation, has the potential to lead to urbanisation on the SAC. Policy H5PU specifically cites relevant housing allocation sites across the Borough.</p>

## 8.4 Mitigation

- 8.4.1 There are policies within the Local Plan that provide protective measures to assist in avoiding or mitigating potential for LSE on NSN and Ramsar sites, through urbanisation.
- 8.4.2 As an overarching protection, policy DS1PU (Presumption in Favour of Sustainable Development) will need to be compliant with the NPPF, and the policy indicates that applications will be approved without delay *“unless material considerations indicate otherwise.”* Material considerations relating to the presumption in favour of sustainable development are laid out in the NPPF that indicates that *‘the presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site’*. Therefore for individual applications, a protective umbrella of requiring the plan or project to ensure no LSE on NSN and Ramsar sites will be in place.
- 8.4.3 Housing allocation sites are however, dependent on the deliverability of policies within the Local Plan, and therefore the Local Plan itself needs to demonstrate no LSE on NSN and Ramsar sites. Policy N1PU (Conserving and Enhancing Biodiversity and Geodiversity) seeks to ensure that *‘potential harmful impacts of any development upon biodiversity and geodiversity must be identified and considered at the earliest stage. Proposals must demonstrate, to the satisfaction of the Council, that the following sequential steps have been undertaken.*

**Avoidance** – *Biodiversity and geodiversity must be considered when drafting up proposals and any potential harmful effects on biodiversity and geodiversity must be identified along with appropriate measures that will be taken to avoid these effects.*

**Mitigation** – *Where harmful effects cannot be avoided, they must be appropriately mitigated in order to overcome or reduce negative impacts.*

**Compensation** – *Where mitigation is not possible or viable or in cases where residual harm would remain following mitigation, harmful effects should be compensated for. Where this is in the form of compensatory habitat of an area of equivalent or greater biodiversity value should be provided. Compensation is a last resort and will only be accepted in exceptional circumstances.*

*Where harm remains to a NSN and Ramsar site, development will only be approved where it can be demonstrated that there are imperative reasons of overriding public interest. In such cases, compensatory measures must ensure the overall coherence of the network of European sites as a whole is protected.’*

This policy provides explicit protection to biodiversity, including NSN and Ramsar sites, in line with the ethos of policy DS1PU. The Local Plan also states that the plan must be read as a

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whole and therefore it is the case that all other policies must be considered as cross-referencing DS1PU and N1PU.

- 8.4.4 Policies H4PU and H5PU that define the need for delivery of housing numbers at specified locations and individual allocations is therefore compliant with other Plan policies, including N1PU, where development must result in no LSE on NSN and Ramsar sites, both alone and in combination with other plans and projects.
- 8.4.5 Policies H15PU (Rural Exception Sites) H16PU (Essential Dwellings for Rural Workers) state that developments must not result in a significant adverse impact on biodiversity. In order to ensure no LSE arises as a result of policies H11PU (Community-led, Self build and custom build housing), H12PU (Residential Establishments, including Specialist, older person housing and purpose built student and key-worked accommodation), H13PU (Conversion and sub-division of buildings to residential uses including large HMO's), H14PU (Domestic Extensions and Alterations), H17PU (Conversion of Rural Buildings to Residential Use) and H18PU (Replacement Dwellings outside Settlement Boundaries), the policies must be considered in the context of the Plan overall, including policy N1PU.
- 8.4.6 The need for the Plan to be considered as a whole also ensures that economic policies must also be compliant with N1PU. Additionally, policy E2PU (Location of Employment) effectively mitigates policy E5PU (Employment Sites and Allocations) through stating that *“where the following impacts occur, development will only be supported where the mitigation measures proposed are deemed by the Council to make the development acceptable...impact on biodiversity”*. Policies E5PU and E6PU (Opportunity Sites) clarify that in order to comply with policy E2PU, project-level HRA may be needed.

## **8.5 Housing allocations, employment sites and draft opportunity areas**

- 8.5.1 Housing allocation sites have been identified that could lead to LSE on the SAC, through urbanisation. These are those located at Cleator Moor (HCM1, HCM2, HCM3). The deliverability of these allocations will require project-specific HRA in order to demonstrate avoidance of urbanisation effects.

## **8.6 In Combination Effects**

- 8.6.1 Individual housing allocation sites have been identified that could lead to LSE on the River Ehen SAC, and these will be addressed through project-specific HRAs. The Local Plan's contribution to any in combination effects highlighted through the screening stage of Appropriate Assessment are addressed at policy level within the Local Plan and the mitigation proposed in this report to inform a HRA.

## **8.7 Conclusion**

- 8.7.1 It is considered that taking into account the susceptibilities of the NSN and Ramsar sites assessed, protective policies already embedded into the Local Plan, and proposed mitigation, which has now been taken into account in producing the consultation draft of the Local Plan Preferred Options, no LSE will remain on the River Ehen SAC, either alone or in combination with other plans and projects, as a result of urbanisation.

## 9 Appropriate Assessment - Loss of or Disturbance to Off-Site Supporting Habitats

### 9.1 NSN and Ramsar Sites Screened Out

9.1.1 The following NSN and Ramsar sites do not require further Appropriate Assessment due to potential LSE that might arise from Copeland's Local Plan either alone or in combination with other plans and projects.

- All SACs – none are designated for mobile terrestrial species within Copeland.
- Esthwaite Water Ramsar – not designated for mobile terrestrial species.

### 9.2 NSN and Ramsar Sites Screened In for Appropriate Assessment

9.2.1 The following NSN and Ramsar sites have been screened in as requiring consideration through Appropriate Assessment due to the potential for LSE from loss of or disturbance to off-site supporting habitats arising from the policies and/or Housing allocations, employment sites and draft opportunity areas included within the Local Plan.

#### Morecambe Bay and Duddon Estuary SPA, Duddon Estuary Ramsar and Morecambe Bay Ramsar

9.2.2 The Morecambe Bay and Duddon Estuary SPA and the Duddon Estuary Ramsar sites lie partially within Copeland and are designated for bird species that may utilise land outside of the designated site boundaries. Morecambe Bay Ramsar site lies outside of Copeland's boundary but the bird species for which it is designated may utilise land outside of the Ramsar site, and within Copeland.

9.2.3 The large size of these designated sites does mean that they are likely to be robust to pressures arising from individual developments, except where this would cause disturbance to critical bird nesting, feeding or roosting locations. These are issues that would be most sensibly addressed at the project-specific level. However in combination with developments across several LPAs, policies that promote development within Copeland could lead to LSE. The Site Improvement Plan that covers both the SPA<sup>25</sup> and Ramsar site identifies that co-ordinated actions to determine and address the causes of disturbance are needed, and should include the Duddon Estuary and Morecambe Bay Partnerships, and the Morecambe Bay European Marine Site Partnership.

#### Solway Firth SPA

9.2.4 This site lies partly within Copeland and is designated for bird species that may utilise land outside of the designated site boundaries.

9.2.5 The large size of the SPA designation does mean that it is likely to be robust to pressures arising from individual developments, except where this would cause disturbance to critical bird nesting, feeding or roosting locations. These are issues that would be most sensibly

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<sup>25</sup> <http://publications.naturalengland.org.uk/publication/6708495835463680>

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addressed at the project-specific level. However in combination with developments across several LPAs, policies that promote development within Copeland could lead to LSE.

### **9.3 Policies Screened In as Requiring Appropriate Assessment**

9.3.1 Policies that could lead to likely significant effects alone and in combination through loss of or disturbance to supporting habitats are shown in the following table.

**Table 9.2: Policies with potential to lead to LSE on NSN and Ramsar sites through loss of or disturbance to supporting habitats.**

Policy	Morecambe Bay and Duddon Estuary SPA, Duddon Estuary Ramsar and Morecambe Bay Ramsar	Solway Firth SPA
Reasons for Screening In		
DS4PU (Settlement Boundaries)	This policy promotes development that includes an increase in housing numbers across the Borough. Therefore, prior to mitigation there is potential for this to result in loss of or disturbance to important off-site habitats in relation to the SPA, Ramsar and SPA sites.	
DS3PU (Settlement Hierarchy)	This policy specifically lists Millom as a Key Service Centre, Haverigg as a local service centre and Drigg/Holmrook as sustainable rural villages with Council support for development at these locations. These settlements are in close proximity to the Morecambe Bay and Duddon Estuary SPA and the Duddon Estuary Ramsar sites and therefore an increase in housing at these locations, prior to mitigation, has the greatest potential to lead to loss of or disturbance to important off-site habitats in relation to the SPA and Ramsar sites, both alone and in combination with other plans and projects.	This policy specifically lists Whitehaven as the Principal Town with Council support for development at this location. Whitehaven is in close proximity to the SPA and therefore an increase in housing, prior to mitigation, has the greatest potential in this area to lead to loss of or disturbance to important off-site habitats in relation to the SPA, both alone and in combination with other plans and projects.

<p>H2PU (Housing Requirement)</p> <p>H3PU (Housing Delivery)</p> <p>H6PU (New Housing Development)</p> <p>H11PU (Community-led, Self build and custom build housing)</p> <p>H12PU (Residential Establishments, including Specialist, older person housing and purpose built student and key-worked accommodation)</p> <p>H13PU (Conversion and sub-division of buildings to residential uses including large HMO's)</p> <p>H14PU (Domestic Extensions and Alterations)</p> <p>H17PU (Conversion of Rural Buildings to Residential Use)</p> <p>H18PU (Replacement Dwellings outside Settlement Boundaries)</p> <p>R2PU (Hierarchy of Town Centres)</p>	<p>These policies all promote an increase in housing numbers across the Borough. Therefore, prior to mitigation there is potential for this to result in an increase in loss of or disturbance to important off-site habitats in relation to the SPA, Ramsar and SPA sites. The location of the Morecambe Bay Ramsar outside of Copeland's boundary means that small and localised developments that are likely to be delivered under policies H11PU, H12PU, H13PU, H14PU, H17PU and H18PU are unlikely to be sited such that these policies in themselves would give rise to LSE on the Ramsar site, but in combination effects would be possible.</p>
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<p>H4PU (Distribution of Housing)</p> <p>H5PU (Housing Allocations)</p>	<p>Policy H4PU specifically lists Millom as a Key Service Centre that will deliver a proportion of minimum 745 new dwellings over the lifetime of the Plan. Along with the settlements of Haverigg, and Seascale, part of the Borough's network of local service centres that will be expected to deliver minimum 422 new dwellings over the lifetime of the Local Plan, and Drigg/ Holmrook, sustainable rural villages that will deliver a proportion of at least 248 new dwellings, there is greater potential here than at more distant sites for loss of or disturbance to important off-site habitats in relation to the SPA and Ramsar sites.</p>	<p>Policy H4PU specifically lists Whitehaven as the Principal Town that will deliver minimum 993 new dwellings over the lifetime of the Plan. Given the proximity of Whitehaven to the SPA there is greater potential here than at more distant sites for loss of or disturbance to important off-site habitats in relation to the SPA.</p>
<p>SC3PU (Playing Fields and Pitches)</p> <p>RE2PU (Equestrian Related Development)</p>	<p>These are policies that promote the location of facilities and activities that dependent on type and location could result in loss of or disturbance to important off-site habitats in relation to the SPA, Ramsar and SPA sites, both alone and in combination with other plans and projects.</p>	
<p>E1PU (Economic Growth)</p> <p>E4PU (Cleator Moor Innovation Quarter at Leconfield)</p> <p>E7PU (Safeguarding of Employment Sites)</p>	<p>Dependent on the scale, location and type of facility, employment sites have the potential to create noise and visible disturbance or to occupy land parcels that could have potential to result in loss of habitat for or disturbance to bird species for which the Morecambe Bay and Duddon Estuary SPA, Solway Firth SPA, Duddon Estuary Ramsar and Morecambe Bay Ramsar sites are designated, both alone and in combination with other plans and projects.</p>	

<p>NU1PU (Supporting Development of the Nuclear Sector)</p>	<p>Dependent on the scale, location and type of facility, energy sites have the potential to create noise and visible disturbance or occupy land parcels that could have potential to result in loss of habitat for or disturbance to bird species for which the Morecambe Bay and Duddon Estuary SPA, Solway Firth SPA, Duddon Estuary Ramsar and Morecambe Bay Ramsar sites are designated, both alone and in combination with other plans and projects. In the case of renewable energy schemes, offshore habitats may be vulnerable in addition to terrestrial habitats.</p>
<p>NU2PU (Maximising Opportunities from Nuclear Decommissioning)</p>	
<p>NU3PU (General Nuclear Energy Sector and associated Development and Infrastructure)</p>	
<p>NU4PU (Nuclear Sector Development at Sellafield)</p>	

## 9.4 Mitigation

- 9.4.1 There are policies within the Local Plan that provide protective measures to assist in avoiding or mitigating potential for LSE on NSN and Ramsar sites, through loss of or disturbance to supporting habitats.
- 9.4.2 As an overarching protection, policy DS1PU (Presumption in Favour of Sustainable Development) will need to be compliant with the NPPF, and the policy indicates that applications will be approved without delay *“unless material considerations indicate otherwise.”* Material considerations relating to the presumption in favour of sustainable development are laid out in the NPPF that indicates that *‘the presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site’*. Therefore for individual applications, a protective umbrella of requiring the plan or project to ensure no LSE on NSN and Ramsar sites will be in place.
- 9.4.3 Housing allocations, employment sites and draft opportunity areas are however, dependent on the deliverability of policies within the Local Plan, and therefore the Local Plan itself needs to demonstrate no LSE on NSN and Ramsar sites. Policy N1PU (Conserving and Enhancing Biodiversity and Geodiversity) seeks to ensure that *‘potential harmful impacts of any development upon biodiversity and geodiversity must be identified and considered at the earliest stage. Proposals must demonstrate, to the satisfaction of the Council, that the following sequential steps have been undertaken.*

**Avoidance** – *Biodiversity and geodiversity must be considered when drafting up proposals and any potential harmful effects on biodiversity and geodiversity must be identified along with appropriate measures that will be taken to avoid these effects.*

**Mitigation** – *Where harmful effects cannot be avoided, they must be appropriately mitigated in order to overcome or reduce negative impacts.*

**Compensation** – *Where mitigation is not possible or viable or in cases where residual harm would remain following mitigation, harmful effects should be compensated for. Where this is in the form of compensatory habitat of an area of equivalent or greater biodiversity value should be provided. Compensation is a last resort and will only be accepted in exceptional circumstances.*

*Where harm remains to a NSN and Ramsar site, development will only be approved where it can be demonstrated that there are imperative reasons of overriding public interest. In such cases, compensatory measures must ensure the overall coherence of the network of European sites as a whole is protected.’*

This policy provides explicit protection to biodiversity, including NSN and Ramsar sites, in line with the ethos of policy DS1PU. The Local Plan also states that the plan must be read as a

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whole and therefore it is the case that all other policies must be considered as cross-referencing DS1PU and N1PU.

- 9.4.4 Policies H4PU and H5PU that define the need for delivery of housing numbers at specified locations and individual allocations is therefore compliant with other Plan policies, including N1PU, where development must result in no LSE on NSN and Ramsar sites, both alone and in combination with other plans and projects.
- 9.4.5 Policies H15PU (Rural Exception Sites) H16PU (Essential Dwellings for Rural Workers) state that developments must not result in a significant adverse impact on biodiversity. In order to ensure no LSE arises as a result of policies H11PU (Community-led, Self build and custom build housing), H12PU (Residential Establishments, including Specialist, older person housing and purpose built student and key-worked accommodation), H13PU (Conversion and sub-division of buildings to residential uses including large HMO's), H14PU (Domestic Extensions and Alterations), H17PU (Conversion of Rural Buildings to Residential Use) and H18PU (Replacement Dwellings outside Settlement Boundaries), the policies must be considered in the context of the Plan overall, including policy N1PU.
- 9.4.6 The need for the Plan to be considered as a whole also ensures that economic policies must also be compliant with N1PU. Additionally, policy E2PU (Location of Employment) effectively mitigates policy E5PU (Employment Sites and Allocations) through stating that *“where the following impacts occur, development will only be supported where the mitigation measures proposed are deemed by the Council to make the development acceptable...impact on biodiversity”*. Policies E5PU and E6PU (Opportunity Sites) clarify that in order to comply with policy E2PU, project-level HRA may be needed. Project-level HRA will be required for policy E4PU (Cleator Moor Innovation Quarter at Leconfield) as this policy is site-specific and there is potential for LSE.
- 9.4.7 Policies NU1PU (Supporting Development of the Nuclear Sector), NU2PU (Maximising Opportunities from Nuclear Decommissioning) and NU3PU (General Nuclear Energy Sector and associated Development and Infrastructure) should add that for large scale renewable energy projects or related economic schemes, then it is highly likely that project-specific HRAs will be necessary.
- 9.4.8 Policy CC2PU (Wind Energy Developments) is supported by text that identifies areas suitable in principle for wind energy. The policy does indicate that significant adverse effects on biodiversity would not be acceptable, and the supporting text adds that all proposals would be highly likely to require project-specific HRAs including detailed assessment of bird species for which relevant SPA and Ramsar sites are designated.
- 9.4.9 Policy N4PU (Marine Planning) ensures that new development that has the potential to harm the marine environment must have consideration the North West Marine Plan and policies therein. The policy notes that the Marine Plan operates at a high level planning tier and therefore environmental assessment at the project level may still be required.

## 9.5 Site Allocations

- 9.5.1 Numerous housing allocations, employment sites and draft opportunity areas across the Borough have been identified that could lead to LSE on the SPA or Ramsar sites through loss

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of or disturbance to off-site supporting habitat. Though no one particular site is likely to cause significant effects, in combination, loss of habitat and disturbance could reach significant levels. Housing allocations are those at Cleator Moor (HCM1, HCM2, HCM3, HCM4), Whitehaven (HWH2, HWH3, HWH4, HWH5, HWH6), Bigrigg (HBI1, HBI2), Millom (HMI1), Lowcra (HLO1), Moor Row (HMR2), St. Bees (HSB3), Drigg and Holmrook (HDH2). Employment sites are those at Whitehaven (Mp022), Distington (Di030) and Seascale (Se028/E21). Draft opportunity areas are those at Cleator (CI005) and Whitehaven (Wp005, Wt020 and WEOS1).

9.5.2 Although hen harrier is not a species for which SPA and Ramsar sites included within this HRA are designated, Whitehaven Commercial Park (Mp022) is a known historical location used by this species and it is possible that loss of habitat used by hen harriers could lead to LSE on SPA and Ramsar sites further afield. Therefore development at this location would need to be subject to HRA supported by surveys and desk study data for this species.

9.5.3 These will require assessment through site-specific assessment that will need to establish whether the site is of value to bird species for which the SPA and Ramsar sites are designated. This could be established through for example, environmental records centre data, supported by standard ecological baseline surveys. Where these are unable to eliminate the possibility of the site being likely to support bird species (and a significant proportion of the relevant population), then bespoke bird surveys may also be necessary. Policy or supporting text relating to the need for project-specific HRA could helpfully indicate that the need for these would form part of the assessment process.

9.5.4 Where loss of supporting habitats would occur, provision of, or contribution to the enhancement of other habitat areas off-site is likely to be required. Where disturbance of birds using supporting habitat is likely, timings and precautionary methods of working (e.g. visual and noise barriers) would be typical of the types of avoidance and mitigation required. Policy or supporting text relating to the need for project-specific HRA could helpfully indicate that the need for these would form part of the assessment process.

## **9.6 In Combination Effects**

9.6.1 Individual Housing allocations, employment sites and draft opportunity areas have been identified that could lead to LSE on the Morecambe Bay and Duddon Estuary SPA, Solway Firth SPA and Duddon Estuary Ramsar, and these will be addressed through project-specific HRAs.

9.6.2 The Local Plan's contribution to any in combination effects highlighted through the screening stage of Appropriate Assessment are addressed at policy level within the Local Plan and the mitigation proposed in this report to inform a HRA.

## **9.7 Conclusion**

9.7.1 It is considered that taking into account the susceptibilities of the NSN and Ramsar sites assessed, protective policies already embedded into the Local Plan, and proposed mitigation, which has now been taken into account in producing the Publication Draft Local Plan, no LSE

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will remain, either alone or in combination with other plans and projects, as a result of loss of or disturbance to off-site supporting habitats.

## 10 Appropriate Assessment - Coastal Squeeze

### 10.1 NSN and Ramsar Sites Screened Out

10.1.1 The following NSN and Ramsar sites do not require further Appropriate Assessment due to potential LSE that might arise from Copeland's Local Plan either alone or in combination with other plans and projects.

**Table 10.1: NSN and Ramsar sites screened out of HRA through the pathway of coastal squeeze.**

NSN and Ramsar Site	Reason for Screening Out
Borrowdale Woodland Complex SAC	Outside of zone of influence for coastal squeeze.
Clints Quarry SAC	Outside of zone of influence for coastal squeeze.
Duddon Mosses SAC	Outside of zone of influence for coastal squeeze.
Lake District High Fells SAC	Outside of zone of influence for coastal squeeze.
North Pennine Dales Meadows SAC	Outside of zone of influence for coastal squeeze.
River Derwent and Bassenthwaite Lake SAC	Outside of zone of influence for coastal squeeze.
River Ehen SAC	Outside of zone of influence for coastal squeeze.
Roudsea Wood and Mosses SAC	Outside of zone of influence for coastal squeeze arising from Copeland's Local Plan.
Subberthwaite, Blawith and Torver Low Commons SAC	Outside of zone of influence for coastal squeeze.
Wast Water SAC	Outside of zone of influence for coastal squeeze.
Yewbarrow Woods SAC	Outside of zone of influence for coastal squeeze.
Solway Firth SPA	The landward limits of the designation will be mean low water.
Esthwaite Water Ramsar	Outside of zone of influence for coastal squeeze.
Morecambe Bay Ramsar	Outside of zone of influence for coastal squeeze arising from Copeland's Local Plan.

### 10.2 NSN and Ramsar Sites Screened In for Appropriate Assessment

10.2.1 The following NSN and Ramsar sites have been screened in as requiring consideration through Appropriate Assessment due to the potential for LSE from reduced coastal squeeze arising from the policies and/or sites included within the Local Plan.

#### Drigg Coast SAC

10.2.2 The SAC lies within Copeland and is designated for habitats that are vulnerable to coastal squeeze. Coastal squeeze is not listed as a threat on the NSN and Ramsar form for the site and nor is it addressed under the Site Improvement Plan for the Drigg Coast SAC.<sup>26</sup> The SMP

<sup>26</sup> <http://publications.naturalengland.org.uk/publication/6642520305958912>

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at this location has a policy of No Active Intervention, which will allow natural processes of erosion and accretion to continue along the SAC frontage.

Morecambe Bay SAC, Morecambe Bay and Duddon Estuary SPA and Duddon Estuary Ramsar

- 10.2.3 The Morecambe Bay SAC, Morecambe Bay and Duddon Estuary SPA and the Duddon Estuary Ramsar sites lie partially within Copeland and are designated for habitats and bird species that would be vulnerable to coastal squeeze. Coastal squeeze is not addressed under the Site Improvement Plan.<sup>27</sup> The SMP for locations adjacent to the SAC, SPA and Ramsar sites within Copeland has a policy of Managed Realignment, which will allow natural processes of erosion and accretion to continue along the frontage whilst providing protection to built development on higher ground.

### **10.3 Policies Screened In as Requiring Appropriate Assessment**

- 10.3.1 Policies that could lead to likely significant effects alone and in combination through coastal squeeze are shown in the following table.

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<sup>27</sup> <http://publications.naturalengland.org.uk/publication/6642520305958912>

**Table 10.2: Policies with potential to lead to LSE on NSN and Ramsar sites through coastal squeeze.**

Policy	Drigg Coast SAC	Morecambe Bay SAC, Morecambe Bay and Duddon Estuary SPA, and Duddon Estuary Ramsar
Reasons for Screening In		
DS4PU (Settlement Boundaries)	This policy promotes development that includes an increase in housing numbers across the Borough. Increased housing numbers at coastal locations could lead to coastal squeeze. Therefore, prior to mitigation there is potential for this to result in coastal squeeze.	
DS3PU (Settlement Hierarchy)	This policy specifically lists Drigg/Holmrook as sustainable rural villages with Council support for development at this location. This settlement is in close proximity to the SAC and therefore an increase in housing at this location, prior to mitigation, has the potential to lead to coastal squeeze on the SAC.	This policy specifically lists Millom as a Key Service Centre, Haverigg as a local service centre, and Drigg/Holmrook as sustainable rural villages with Council support for development at these locations. These settlements are in close proximity to the Morecambe Bay SAC, Morecambe Bay and Duddon Estuary SPA and the Duddon Estuary Ramsar sites and therefore an increase in housing at these locations, prior to mitigation, has the potential to lead to coastal squeeze.

<p>H2PU (Housing Requirement)</p> <p>H3PU (Housing Delivery)</p> <p>H6PU (New Housing Development)</p> <p>H11PU (Community-led, Self build and custom build housing)</p> <p>H12PU (Residential Establishments, including Specialist, older person housing and purpose built student and key-worked accommodation)</p> <p>H13PU (Conversion and sub-division of buildings to residential uses including large HMO's)</p> <p>H14PU (Domestic Extensions and Alterations)</p> <p>H17PU (Conversion of Rural Buildings to Residential Use)</p> <p>H18PU (Replacement Dwellings outside Settlement Boundaries)</p> <p>RE1PU (Agricultural Buildings)</p> <p>R2PU (Hierarchy of Town Centres)</p>	<p>These policies all promote an increase in housing numbers across the Borough. Therefore, prior to mitigation there is potential for this to result in an increase in coastal squeeze on the Drigg Coast SAC. The level of housing to be delivered under policies H11PU, H12PU, H13PU, H14PU, H17PU and H18PU and RE1PO are unlikely to be such that these policies in themselves would give rise to LSE, but in combination effects with other housing across the Borough would be possible.</p>
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<p>H4PU (Distribution of Housing)</p> <p>H5PU (Housing Allocations)</p>	<p>Policy H4PU specifically lists Drigg/Holmrook as sustainable rural villages that will deliver a proportion of minimum 248 new dwellings over the lifetime of the Plan. As a result there is potential for coastal squeeze. Policy H5PU specifically cites relevant housing allocation sites across the Borough.</p>	<p>Policy H4PU specifically lists Millom as a Key Service Centre that will deliver a proportion of minimum 745 new dwellings over the lifetime of the Plan. Along with the settlements of Haverigg and Seascale, part of the Borough's network of local service centres that will be expected to deliver minimum 422 new dwellings over the lifetime of the Local Plan, and the sustainable rural villages of Drigg/ Holmrook that will deliver a proportion of at least 248 new dwellings, there is potential for coastal squeeze. Policy H5PU specifically cites relevant housing allocation sites across the Borough.</p>
<p>SC3PU (Playing Fields and Pitches)</p> <p>RE2PU (Equestrian Related Development)</p>	<p>These are policies that promote the location of facilities that dependent on type and location could result in coastal squeeze, in combination with other plans and projects.</p>	
<p>E1PU (Economic Growth)</p> <p>E3PU (Westlakes Science and Technology Park)</p> <p>E7PU (Safeguarding of Employment Sites)</p>	<p>Dependent on the scale, location and type of facility, employment sites have the potential to create coastal squeeze, either alone or in combination with other plans and projects.</p>	

<p>NU1PU (Supporting Development of the Nuclear Sector)</p>	<p>Dependent on the scale, location and type of facility, energy sites have the potential to create coastal squeeze.</p>
<p>NU2PU (Maximising Opportunities from Nuclear Decommissioning)</p>	
<p>NU3PU (General Nuclear Energy Sector and associated Development and Infrastructure)</p>	
<p>NU4PU (Nuclear Sector Development at Sellafield)</p>	

## 10.4 Mitigation

- 10.4.1 There are policies within the Local Plan that provide protective measures to assist in avoiding or mitigating potential for LSE on NSN and Ramsar sites, through coastal squeeze.
- 10.4.2 As an overarching protection, policy DS1PU (Presumption in Favour of Sustainable Development) will need to be compliant with the NPPF, and the policy indicates that applications will be approved without delay *“unless material considerations indicate otherwise.”* Material considerations relating to the presumption in favour of sustainable development are laid out in the NPPF that indicates that *‘the presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site’*. Therefore for individual applications, a protective umbrella of requiring the plan or project to ensure no LSE on NSN and Ramsar sites will be in place.
- 10.4.3 Housing allocations, employment sites and draft opportunity areas are however, dependent on the deliverability of policies within the Local Plan, and therefore the Local Plan itself needs to demonstrate no LSE on NSN and Ramsar sites. Policy N1PU (Conserving and Enhancing Biodiversity and Geodiversity) seeks to ensure that *‘potential harmful impacts of any development upon biodiversity and geodiversity must be identified and considered at the earliest stage. Proposals must demonstrate, to the satisfaction of the Council, that the following sequential steps have been undertaken.*

**Avoidance** – *Biodiversity and geodiversity must be considered when drafting up proposals and any potential harmful effects on biodiversity and geodiversity must be identified along with appropriate measures that will be taken to avoid these effects.*

**Mitigation** – *Where harmful effects cannot be avoided, they must be appropriately mitigated in order to overcome or reduce negative impacts.*

**Compensation** – *Where mitigation is not possible or viable or in cases where residual harm would remain following mitigation, harmful effects should be compensated for. Where this is in the form of compensatory habitat of an area of equivalent or greater biodiversity value should be provided. Compensation is a last resort and will only be accepted in exceptional circumstances.*

*Where harm remains to a NSN and Ramsar site, development will only be approved where it can be demonstrated that there are imperative reasons of overriding public interest. In such cases, compensatory measures must ensure the overall coherence of the network of European sites as a whole is protected.’*

This policy provides explicit protection to biodiversity, including NSN and Ramsar sites, in line with the ethos of policy DS1PU. The Local Plan also states that the plan must be read as a

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whole and therefore it is the case that all other policies must be considered as cross-referencing DS1PU and N1PU.

- 10.4.4 Policies H4PU and H5PU that define the need for delivery of housing numbers at specified locations and individual allocations is therefore compliant with other Plan policies, including N1PU, where development must result in no LSE on NSN and Ramsar sites, both alone and in combination with other plans and projects.
- 10.4.5 Policies H15PU (Rural Exception Sites) H16PU (Essential Dwellings for Rural Workers) state that developments must not result in a significant adverse impact on biodiversity. In order to ensure no LSE arises as a result of policies H11PU (Community-led, Self build and custom build housing), H12PU (Residential Establishments, including Specialist, older person housing and purpose built student and key-worked accommodation), H13PU (Conversion and sub-division of buildings to residential uses including large HMO's), H14PU (Domestic Extensions and Alterations), H17PU (Conversion of Rural Buildings to Residential Use) and H18PU (Replacement Dwellings outside Settlement Boundaries), the policies must be considered in the context of the Plan overall, including policy N1PU.
- 10.4.6 The need for the Plan to be considered as a whole also ensures that economic policies must also be compliant with N1PU. Additionally, policy E2PU (Location of Employment) effectively mitigates policy E5PU (Employment Sites and Allocations) through stating that *“where the following impacts occur, development will only be supported where the mitigation measures proposed are deemed by the Council to make the development acceptable...impact on biodiversity”*. Policies E5PU and E6PU (Opportunity Sites) clarify that in order to comply with policy E2PU, project-level HRA may be needed.
- 10.4.7 Policies NU1PU (Supporting Development of the Nuclear Sector), NU2PU (Maximising Opportunities from Nuclear Decommissioning) and NU3PU (General Nuclear Energy Sector and associated Development and Infrastructure) should add that for large scale renewable energy projects or related economic schemes, then it is highly likely that project-specific HRAs will be necessary.

## **10.5 Site Allocations**

- 10.5.1 No individual site allocations across the Borough have been identified that could lead to LSE on the Drigg Coast SAC through coastal squeeze. If any such sites were to come forward, project-level HRA may be necessary in order to determine absence of LSE.
- 10.5.2 Employment site Mi042/E2 in Millom was screened in as potentially leading to coastal squeeze on the Morecambe Bay SAC, Morecambe Bay and Duddon Estuary SPA and Duddon Estuary Ramsar sites in combination with other plans and projects. If these sites were to come forward, project-level HRA may be necessary in order to determine absence of LSE.

## **10.6 In Combination Effects**

- 10.6.1 One employment site has been identified that could lead to LSE on the Morecambe Bay SAC, Morecambe Bay and Duddon Estuary SPA, and Duddon Estuary Ramsar, and this will be addressed through project-specific HRA. The Local Plan's contribution to any in combination

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effects highlighted through the screening stage of Appropriate Assessment are addressed at policy level within the Local Plan and the mitigation proposed in this report to inform a HRA.

## **10.7 Conclusion**

- 10.7.1 It is considered that taking into account the susceptibilities of the NSN and Ramsar sites assessed, protective policies already embedded into the Local Plan, and proposed mitigation, which has now been taken into account in producing the Publication Draft Local Plan, no LSE will remain, either alone or in combination with other plans and projects, as a result of coastal squeeze.

## 11 Overall Conclusion

11.1.1 It has been possible to conclude that the policies and housing allocations, employment sites and draft opportunity areas included within Copeland Borough Council's Publication Draft Local Plan document will not lead to LSE on any NSN and Ramsar sites through the following pathways of impact, both alone and in combination with other plans and projects:

- Recreational pressure and disturbance
- Reduced air quality
- Reduced water resources, altered flows or hydrology
- Reduced water quality
- Urbanisation
- Loss of or disturbance to supporting habitats
- Coastal squeeze

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# Appendix 1 NSN and Ramsar Site Information

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## **Borrowdale Woodland Complex SAC**

### ***Qualifying Features***

Borrowdale Woodland Complex qualifies as a SAC due to supporting the Annex I habitats:

- Western acidic oak woodland;
- Plants in crevices on acid rocks; and
- Bog woodland

### ***Current Threats and Pressures***

According to the NSN and Ramsar data form for this site<sup>28</sup>, the current threats to the SAC are:

- Grazing;
- Forest and plantation management and use;
- Air pollution, air-borne pollutants;
- Interspecific floral relations; and
- Problematic native species.

The Site Improvement Plan<sup>29</sup> for the SAC considers the following threats:

- Deer;
- Forestry and woodland management;
- Inappropriate grazing;
- Disease;
- Air pollution (atmospheric nitrogen); and
- Public access/ disturbance.

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<sup>28</sup> <https://jncc.gov.uk/jncc-assets/SAC-N2K/UK0012745.pdf>

<sup>29</sup> <http://publications.naturalengland.org.uk/publication/5108578910208000>

## Clints Quarry SAC

### **Qualifying Features**

Clints Quarry qualifies as a SAC due to supporting the Annex II species:

- Great crested newts *Triturus cristatus*

### **Current Threats and Pressures**

According to the NSN and Ramsar data form for this site<sup>30</sup>, the current threats to the SAC are:

- Fishing and harvesting aquatic resources; and
- Human induced changes in hydraulic conditions.

The Site Improvement Plan<sup>31</sup> for the SAC considers the following threats:

- Fisheries: Freshwater; and
- Hydrological changes.

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<sup>30</sup> <https://jncc.gov.uk/jncc-assets/SAC-N2K/UK0030035.pdf>

<sup>31</sup> <http://publications.naturalengland.org.uk/publication/6209272232804352>

## Drigg Coast SAC

### **Qualifying Features**

Drigg Coast qualifies as a SAC due to supporting the Annex I habitats:

- Estuaries;
- Coastal dune heathland;
- Dunes with creeping willow *Salix repens*;
- Intertidal mudflats and sandflats;
- Glasswort and other annuals colonising mud and sand;
- Atlantic salt meadows;
- Shifting dunes;
- Shifting dunes with marram *Ammophila arenaria*;
- Dune grassland; and
- Humid dune slacks.

### **Current Threats and Pressures**

According to the NSN and Ramsar data form for this site<sup>32</sup>, the current threats to the SAC are:

- Grazing;
- Biocenotic evolution, succession; and
- Air pollution, airborne pollutants.

The Site Improvement Plan<sup>33</sup> for the SAC considers the following threats:

- Undergrazing;
- Inappropriate scrub control;
- Air pollution (atmospheric nitrogen); and
- Fisheries (commercial).

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<sup>32</sup> <https://jncc.gov.uk/jncc-assets/SAC-N2K/UK0013031.pdf>

<sup>33</sup> <http://publications.naturalengland.org.uk/publication/6642520305958912>

## Duddon Mosses SAC

### *Qualifying Features*

Duddon Mosses qualifies as a SAC due to supporting the Annex I habitats:

- Active raised bogs; and
- Degraded raised bogs.

### *Current Threats and Pressures*

According to the NSN and Ramsar data form for this site<sup>34</sup>, the current threats to the SAC are:

- Air pollution, air-borne pollutants;
- Invasive non-native species;
- Human induced changes in hydraulic conditions;
- Biocenotic evolution, succession; and
- Changes in abiotic conditions.

The Site Improvement Plan<sup>35</sup> for the SAC considers the following threats:

- Hydrological changes;
- Inappropriate scrub control;
- Invasive species;
- Climate change; and
- Air pollution (atmospheric nitrogen).

---

<sup>34</sup> <https://jncc.gov.uk/jncc-assets/SAC-N2K/UK0019833.pdf>

<sup>35</sup> <http://publications.naturalengland.org.uk/publication/5667921359536128>

## Lake District High Fells SAC

### **Qualifying Features**

The Lake District High Fells qualifies as a SAC due to supporting the Annex I habitats:

- Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels;
- Wet heathland with cross-leaved heath *Erica tetralix*;
- Dry heaths;
- Alpine and subalpine heaths;
- Juniper *Juniperus communis* on heaths or calcareous grasslands;
- Montane acid grasslands;
- Tall herb communities;
- Blanket bog;
- Acidic scree;
- Plants in crevices on acid rocks;
- Western acidic oak woodland;
- Species rich grassland with mat grass in upland areas;
- Calcium-rich, springwater-fed fens; and
- Plants in crevices in base-rich rocks.

The Lake District High Fells qualifies as a SAC due to supporting the Annex II species:

- Slender green feather-moss *Drepanocladus vernicosus*.

### **Current Threats and Pressures**

According to the NSN and Ramsar data form for this site<sup>36</sup>, the current threats to the SAC are:

- Grazing;
- Air pollution, air-borne pollutants;
- Outdoor sports and leisure activities, recreational activities;
- Problematic native species; and
- Changes in biotic conditions.

The Site Improvement Plan<sup>37</sup> for the SAC considers the following threats:

- Inappropriate grazing;
- Deer;
- Air pollution (atmospheric nitrogen);
- Unsustainable onsite population or habitat;
- Public access/disturbance;
- Managed rotational burning;
- Hydrological changes;
- Invasive species; and

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<sup>36</sup> <https://jncc.gov.uk/jncc-assets/SAC-N2K/UK0012960.pdf>

<sup>37</sup> <http://publications.naturalengland.org.uk/publication/6534434434056192>

- 
- Disease.

## **Morecambe Bay SAC**

### ***Qualifying Features***

Morecambe Bay qualifies as a SAC due to supporting the Annex I habitats:

- Estuaries;
- Intertidal mudflats and sandflats;
- Shallow inlets and bays;
- Coastal shingle vegetation outside the reach of waves;
- Glasswort and other annuals colonising mud and sand;
- Atlantic salt meadows;
- Shifting dunes with marram;
- Dune grassland;
- Humid dune slacks;
- Subtidal sandbanks;
- Lagoons;
- Reefs;
- Shifting dunes;
- Coastal dune heathland; and
- Dunes with creeping willow.

Morecambe Bay qualifies as a SAC due to supporting the Annex II species:

- Great crested newt

### ***Current Threats and Pressures***

According to the NSN and Ramsar data form for this site<sup>38</sup>, the current threats to the SAC are:

- Fishing and harvesting aquatic resources;
- Outdoor sports and leisure activities, recreational activities; and
- Air pollution, air-borne pollutants.

The Site Improvement Plan<sup>39</sup> for the SAC considers the following threats:

- Public access/disturbance;
- Air pollution (atmospheric nitrogen);
- Water pollution;
- Inappropriate pest control;
- Invasive species;
- Commercial and marine fisheries;
- Aquaculture;
- Biological resource use;
- Change in land management;

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<sup>38</sup> <https://jncc.gov.uk/jncc-assets/SAC-N2K/UK0013027.pdf>

<sup>39</sup> <http://publications.naturalengland.org.uk/publication/6708495835463680>

- 
- Hydrological changes;
  - Physical modification;
  - Energy production;
  - Changes in species distributions; and
  - Direct impacts by 3<sup>rd</sup> parties.

## **North Pennine Dales Meadows SAC**

### ***Qualifying Features***

The North Pennine Dales Meadows qualify as a SAC due to supporting the Annex I habitats:

- Mountain hay meadows; and
- Purple moor grass *Molinia caerulea* meadows.

### ***Current Threats and Pressures***

According to the NSN and Ramsar data form for this site<sup>40</sup>, the current threats to the SAC are:

- Modification of cultivation practices;
- Mowing/ cutting of grassland;
- Fertilisation; and
- Air pollution, air-borne pollutants.

The Site Improvement Plan<sup>41</sup> for the SAC considers the following threats:

- Fertiliser use;
- Change in land management;
- Air pollution (atmospheric nitrogen);
- Inappropriate cutting/ mowing;
- Changes in species distributions;
- Inappropriate CSS/ ESA prescriptions;
- Drainage;
- Overgrazing;
- Undergrazing;
- Hydrological changes;
- Inappropriate weed control;
- Invasive species; and
- Direct impacts from 3<sup>rd</sup> parties.

## **River Derwent and Bassenthwaite Lake SAC**

### ***Qualifying Features***

The River Derwent and Bassenthwaite Lake qualify as a SAC due to supporting the Annex I habitats:

- Clear-water lochs or lakes with aquatic vegetation and poor to moderate nutrient levels;
- Rivers with floating vegetation often dominated by water crowfoot;

---

<sup>40</sup> <https://jncc.gov.uk/jncc-assets/SAC-N2K/UK0014775.pdf>

<sup>41</sup> <http://publications.naturalengland.org.uk/publication/6252591004516352>

- 
- Plants in crevices on acid rocks; and
  - Bog woodland.

The River Derwent and Bassenthwaite Lake qualify as a SAC due to supporting the Annex II species:

- Marsh fritillary *Euphydryas aurinia*;
- Sea lamprey *Petromyzon marinus*;
- Brook lamprey *Lampetra planeri*;
- River lamprey *Lampetra fluviatilis*;
- Atlantic salmon *Salmo salar*;
- Otter *Lutra lutra*; and
- Floating water plantain *Luronium natans*.

### **Current Threats and Pressures**

According to the NSN and Ramsar data form for this site<sup>42</sup>, the current threats to the SAC are:

- Pollution to groundwater (point sources and diffuse sources);
- Invasive non-native species; and
- Human induced change in hydraulic conditions.

The Site Improvement Plan<sup>43</sup> for the SAC considers the following threats:

- Water pollution;
- Siltation;
- Invasive species;
- Physical modification;
- Water abstraction;
- Changes in species distributions;
- Change in land management;
- Forestry and woodland management;
- Fish stocking;
- Hydrological changes; and
- Air pollution (atmospheric nitrogen).

## **River Ehen SAC**

### **Qualifying Features**

The River Ehen qualifies as a SAC due to supporting the Annex II species:

- Freshwater pearl mussel *Margaritifera margaritifera*; and
- Atlantic salmon *Salmo salar*.

### **Current Threats and Pressures**

According to the NSN and Ramsar data form for this site<sup>44</sup>, the current threats to the SAC are:

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<sup>42</sup> <https://jncc.gov.uk/jncc-assets/SAC-N2K/UK0030032.pdf>

<sup>43</sup> <http://publications.naturalengland.org.uk/publication/5735697705074688>

<sup>44</sup> <https://jncc.gov.uk/jncc-assets/SAC-N2K/UK0030057.pdf>

- 
- Pollution to groundwater (point sources and diffuse sources);
  - Human induced changes in hydraulic conditions; and
  - Changes in biotic conditions.

The Site Improvement Plan<sup>45</sup> for the SAC considers the following threats:

- Water abstraction;
- Low breeding success/ poor recruitment;
- Siltation;
- Water pollution;
- Inappropriate weirs, dams and other structures;
- Agricultural management practices;
- Invasive species;
- Forestry and woodland management;
- Public access/ disturbance; and
- Transportation and service corridors.

## **Roudsea Wood and Mosses SAC**

### ***Qualifying Features***

Roudsea Wood and Mosses qualifies as a SAC due to supporting the Annex I habitats:

- Active raised bogs;
- Degraded raised bogs;
- Mixed woodland on base-rich soils associated with rocky slopes; and
- Yew *Taxus baccata* dominated woodland.

### ***Current Threats and Pressures***

According to the NSN and Ramsar data form for this site<sup>46</sup>, the current threats to the SAC are:

- Forest and plantation management and use;
- Invasive non-native species;
- Problematic native species;
- Human induced changes in hydraulic conditions; and
- Biocenotic evolution, succession.

The Site Improvement Plan<sup>47</sup> for the SAC considers the following threats:

- Hydrological changes;
- Invasive species;
- Inappropriate scrub control;
- Deer;
- Forestry and woodland management;
- Air pollution (atmospheric nitrogen); and

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<sup>45</sup> <http://publications.naturalengland.org.uk/publication/6203335036108800>

<sup>46</sup> <https://jncc.gov.uk/jncc-assets/SAC-N2K/UK0019834.pdf>

<sup>47</sup> <http://publications.naturalengland.org.uk/publication/5049567880511488>

- 
- Disease.

## **Subberthwaite, Blawith and Torver Low Commons SAC**

### ***Qualifying Features***

Subberthwaite, Blawith and Torver Low Commons qualifies as a SAC due to supporting the Annex I habitats:

- Very wet mires often identified by an unstable 'quaking' surface; and
- Depressions on peat substrates.

### ***Current Threats and Pressures***

According to the NSN and Ramsar data form for this site<sup>48</sup>, the current threats to the SAC are:

- Modification of cultivation practices;
- Outdoor sports and leisure activities, recreational activities;
- Other human intrusions and disturbances;
- Air pollution, air-borne pollutants; and
- Human induced changes in hydraulic conditions.

The Site Improvement Plan<sup>49</sup> for the SAC considers the following threats:

- Hydrological changes;
- Change in land management;
- Air pollution (atmospheric nitrogen);
- Public access/ disturbance;
- Vehicles: illicit;
- Deer;
- Water pollution; and
- Climate change.

## **Wast Water SAC**

### ***Qualifying Features***

Wast Water qualifies as a SAC due to supporting the Annex I habitats:

- Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels.

### ***Current Threats and Pressures***

According to the NSN and Ramsar data form for this site<sup>50</sup>, the current threats to the SAC are:

- Modification of cultivation practices;
- Pollution to groundwater (point sources and diffuse sources);
- Air pollution, air-borne pollutants;
- Invasive, non-native species; and

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<sup>48</sup> <https://jncc.gov.uk/jncc-assets/SAC-N2K/UK0030285.pdf>

<sup>49</sup> <http://publications.naturalengland.org.uk/publication/5049567880511488>

<sup>50</sup> <https://jncc.gov.uk/jncc-assets/SAC-N2K/UK0030063.pdf>

- 
- Changes in biotic conditions.

The Site Improvement Plan<sup>51</sup> for the SAC considers the following threats:

- Water pollution;
- Change in land management;
- Invasive species;
- Air pollution (atmospheric nitrogen); and
- Changes in species distributions.

## **Yewbarrow Woods SAC**

### ***Qualifying Features***

Yewbarrow Woods qualifies as a SAC due to supporting the Annex I habitats:

- Yew-dominated woodland;
- Juniper on heaths or calcareous grasslands; and
- Western acidic oak woodland.

### ***Current Threats and Pressures***

According to the NSN and Ramsar data form for this site<sup>52</sup>, the current threats to the SAC are:

- Grazing;
- Invasive, non-native species;
- Problematic native species;
- Biocenotic evolution, succession; and
- Interspecific floral relations.

The Site Improvement Plan<sup>53</sup> for the SAC considers the following threats:

- Invasive species;
- Deer;
- Inappropriate vegetation management;
- Disease; and
- Inappropriate grazing.

## **Morecambe Bay and Duddon Estuary SPA**

### ***Qualifying Features***

Morecambe Bay and Duddon Estuary qualifies as a SPA due to supporting the breeding species:

- Sandwich tern *Sterna sandvicensis*;
- Common tern *Sterna hirundo*;
- Little tern *Sterna albifrons*;
- Lesser black-backed gull *Larus fuscus*; and

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<sup>51</sup> <http://publications.naturalengland.org.uk/publication/6061855692816384>

<sup>52</sup> <https://jncc.gov.uk/jncc-assets/SAC-N2K/UK0030306.pdf>

<sup>53</sup> <http://publications.naturalengland.org.uk/publication/6032706127265792>

- 
- Herring gull *Larus argentatus argentatus*.

Morecambe Bay and Duddon Estuary qualifies as a SPA due to supporting species over winter:

- Whooper swan *Cygnus cygnus*;
- Little egret *Egretta garzetta*;
- Golden plover *Pluvialis apricaria*;
- Ruff *Calidris pugnax*;
- Bar-tailed godwit *Limosa lapponica*; and
- Mediterranean gull *Larus melanocephalus*.

Morecambe Bay and Duddon Estuary qualifies as a SPA due to supporting species on passage:

- Pink-footed goose *Anser brachyrhynchus*;
- Shelduck *Tadorna tadorna*;
- Oystercatcher *Haematopus ostralegus*;
- Ringed plover *Charadrius hiaticula*;
- Grey plover *Pluvialis squatarola*;
- Knot *Calidris canutus*;
- Sanderling *Calidris alba*;
- Dunlin *Calidris alpina alpina*;
- Black-tailed godwit *Limosa limosa*;
- Curlew *Numenius arquata*;
- Pintail *Anas acuta*;
- Turnstone *Arenaria interpres*;
- Redshank *Tringa totanus*; and
- Lesser black-backed gull *Larus fuscus*.

Morecambe Bay and Duddon Estuary qualifies as a SPA due to supporting an assemblage of breeding and over-wintering birds.

### **Current Threats and Pressures**

According to the NSN and Ramsar data form for this site<sup>54</sup>, the current threats to the SPA are:

- Airports, flight paths;
- Fishing and harvesting aquatic resources;
- Outdoor sports and leisure activities, recreational activities;
- Marine water pollution;
- Air pollution, air-borne pollutants;
- Invasive, non-native species;
- Interspecific faunal relations;
- Changes in abiotic conditions; and
- Changes in biotic conditions.

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<sup>54</sup> <https://jncc.gov.uk/jncc-assets/SPA-N2K/UK9020326.pdf>

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The Site Improvement Plan<sup>55</sup> for the SPA considers the following threats:

- Public access/ disturbance;
- Air pollution (atmospheric nitrogen);
- Water pollution;
- Inappropriate pest control;
- Invasive species;
- Fisheries: Commercial marine and estuarine;
- Fisheries: Aquaculture;
- Biological resource use;
- Change in land management;
- Hydrological changes;
- Physical modification;
- Energy production;
- Changes in species distributions; and
- Direct impact from 3<sup>rd</sup> parties.

## Solway Firth SPA

### **Qualifying Features**

Solway Firth qualifies as a SPA due to supporting species over winter:

- Red-throated diver *Gavia stellata*;
- Whooper swan *Cygnus cygnus*;
- Barnacle goose *Branta leucopsis*;
- Golden plover *Pluvialis apricaria*; and
- Bar-tailed godwit *Limosa lapponica*.
- Pink-footed goose *Anser brachyrhynchus*;
- Pintail *Anas acuta*;
- Scaup *Aythya marila*;
- Oystercatcher *Haematopus ostralegus*;
- Curlew *Numenius arquata*;
- Knot *Calidris canutus*;
- Redshank *Tringa totanus*;
- Shelduck *Tadorna tadorna*;
- Turnstone *Arenaria interpres*;
- Sanderling *Calidris alba*;
- Dunlin *Calidris alpina alpina*;
- Grey plover *Pluvialis squatarola*;
- Lapwing *Vanellus vanellus*;
- Shoveler *Anas clypeata*:
- Teal *Anas crecca*;
- Goldeneye *Bucephala clangula*;
- Herring gull *Larus argentatus*;

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<sup>55</sup> <http://publications.naturalengland.org.uk/publication/6708495835463680>

- 
- Common gull *Larus canus*;
  - Black-headed gull *Larus ridibundus*;
  - Common scoter *Melanitta nigra*;
  - Red-breasted merganser *Merganser merganser*; and
  - Ringed plover *Charadrius hiaticula*.

Solway Firth qualifies as a SPA due to supporting an assemblage of over-wintering birds.

#### ***Current Threats and Pressures***

Not available.

### **Duddon Estuary Ramsar**

#### ***Qualifying Features***

Duddon Estuary qualifies as a Ramsar site due to supporting:

- Ramsar criterion 2: vulnerable, endangered, or critically endangered species or threatened ecological communities;
- Ramsar criterion 4: plant and/or animal species at a critical stage in their life cycles, or provides refuge during adverse conditions;
- Ramsar criterion 5: 20,000 or more waterbirds; and
- Ramsar criterion 6: 1% of the individuals in a population of one species or subspecies of waterbird.

#### ***Current Threats and Pressures***

According to the NSN and Ramsar data form for this site<sup>56</sup>, no current adverse factors affecting the site are identified.

The Site Improvement Plan<sup>57</sup> for the wider Morecambe Bay and Duddon Estuary SPA site considers the following threats:

- Public access/ disturbance;
- Air pollution (atmospheric nitrogen);
- Water pollution;
- Inappropriate pest control;
- Invasive species;
- Fisheries: Commercial marine and estuarine;
- Fisheries: Aquaculture;
- Biological resource use;
- Change in land management;
- Hydrological changes;
- Physical modification;
- Energy production;
- Changes in species distributions; and

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<sup>56</sup> <https://jncc.gov.uk/jncc-assets/RIS/UK11022.pdf>

<sup>57</sup> <http://publications.naturalengland.org.uk/publication/6708495835463680>

- 
- Direct impact from 3<sup>rd</sup> parties.

## **Morecambe Bay Ramsar**

### ***Qualifying Features***

Morecambe Bay qualifies as a Ramsar site due to supporting:

- Ramsar criterion 4: plant and/or animal species at a critical stage in their life cycles, or provides refuge during adverse conditions;
- Ramsar criterion 5: 20,000 or more waterbirds; and
- Ramsar criterion 6: 1% of the individuals in a population of one species or subspecies of waterbird.

### ***Current Threats and Pressures***

According to the NSN and Ramsar data form for this site<sup>58</sup>, no current adverse factors affecting the site are identified.

The Site Improvement Plan<sup>59</sup> for the wider Morecambe Bay and Duddon Estuary SPA site considers the following threats:

- Public access/ disturbance;
- Air pollution (atmospheric nitrogen);
- Water pollution;
- Inappropriate pest control;
- Invasive species;
- Fisheries: Commercial marine and estuarine;
- Fisheries: Aquaculture;
- Biological resource use;
- Change in land management;
- Hydrological changes;
- Physical modification;
- Energy production;
- Changes in species distributions; and
- Direct impact from 3<sup>rd</sup> parties.

## **Esthwaite Water Ramsar**

### ***Qualifying Features***

Esthwaite Water qualifies as a Ramsar site due to supporting:

- Ramsar criterion 1: a representative, rare, or unique example of a natural or near-natural wetland type found within the appropriate biogeographic region; and
- Ramsar criterion 2: vulnerable, endangered, or critically endangered species or threatened ecological communities.

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<sup>58</sup> <https://jncc.gov.uk/jncc-assets/RIS/UK11045.pdf>

<sup>59</sup> <http://publications.naturalengland.org.uk/publication/6708495835463680>

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### ***Current Threats and Pressures***

According to the NSN and Ramsar data form for this site<sup>60</sup>, the current adverse factors affecting the Ramsar are:

- Eutrophication;
- Pollution - domestic sewage;
- Pollution – other; and
- Pollution – associated with aquaculture.

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<sup>60</sup> <http://archive.jncc.gov.uk/pdf/RIS20080613/UK11024.pdf>

# Appendix 2 Air Quality Assessment

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**Ecological Air Quality Assessment**  
**Copeland Local Plan**

**Client: Copeland Borough Council**

**Reference: 5168r1**

**Date: 22<sup>nd</sup> December 2021**



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## **Report Issue**

Report Title: Ecological Air Quality Assessment - Copeland Local Plan

Report Reference: 5168

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1	22 <sup>nd</sup> December 2021	Jethro Redmore	-

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## **1.0 INTRODUCTION**

1.1.1 Redmore Environmental Ltd was commissioned by Copeland Borough Council to undertake an Ecological Air Quality Assessment in relation to the Copeland Local Plan.

1.1.2 Copeland Borough Council are currently in the process of preparing a new Local Plan, for which a Habitats Regulations Assessment (HRA) is required. Work undertaken to date has highlighted the requirement for an Ecological Air Quality Assessment to consider potential impacts at the following designations as a result of traffic changes on the associated road links:

- Duddon Mosses Special Area of Conservation (SAC) - A595 Foxfield, Broughton-in-Furness;
- Subberthwaite, Blawith and Torver Low Commons SAC - A5092 Grizebeck Brow, Grizebeck 'Hill Farm'; and,
- Lake District High Fells SAC - A66 between A592 and A5091.

1.1.3 Dispersion modelling was undertaken in order to quantify potential changes in pollution levels at the identified ecological designations as result of the Local Plan. The results are summarised in the following report.

## **2.0 METHODOLOGY**

### **2.1 Introduction**

2.1.1 The assessment included the following stages:

- Identification of discrete receptor locations within the ecological designations;
- Dispersion modelling of oxides of nitrogen (NO<sub>x</sub>) and ammonia (NH<sub>3</sub>) emissions from the relevant road sources;
- Post processing of model outputs to produce predictions of pollution levels for the relevant scenarios; and,
- Comparison of modelling results with the relevant criteria.

2.1.2 Reference was made to the following documents throughout the assessment:

- Natural England (NE) 'Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations'<sup>1</sup>; and,
- Institute of Air Quality Management (IAQM) 'A Guide to the Assessment of Air Quality Impacts on Designated Nature Conservation Sites'<sup>2</sup>.

2.1.3 The following Sections outline the methodology and inputs used for the assessment.

### **2.2 Modelling Scenarios**

2.2.1 Potential impacts have been defined by predicting NO<sub>x</sub> and NH<sub>3</sub> concentrations, as well as nitrogen and acid deposition rates, using dispersion modelling for the following scenarios:

- Base 2038 - Reference Case Scenario (RCS). Includes developments which have planning permission and live applications with the potential to gain permission soon. Other developments that are likely to gain planning permission and be constructed by 2038 have been included;

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<sup>1</sup> Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations, NE, 2018.

<sup>2</sup> A Guide to the Assessment of Air Quality Impacts on Designated Nature Conservation Sites v1.1, IAQM, 2020.

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- Local Plan scenario 2038 - Local Plan Scenario (LPS). As well as the development in Base scenario, it includes the preferred residential and employment options; and,
- Local Plan High Growth Scenario 2038 (LPHGS) - includes additional residential and employment options over and above the preferred options.

2.2.2 Pollution levels were predicted using 2021 and 2038 backgrounds and vehicle emission rates to provide an indication of potential conditions with and without anticipated changes in air quality over the plan period.

## 2.3 **Modelled Receptors**

2.3.1 Discrete receptor locations were included in the model to quantify changes in pollution levels throughout the identified designations. These were selected based on site proximity to the roadside. Transects were included at each location in order to provide analysis of pollution reduction with distance from source. The following format was utilised for receptor identification:

- EX-0 - 0m from the roadside;
- EX-50 - 50m from the roadside;
- EX-100 - 100m from the roadside;
- EX-150 - 150m from the roadside; and,
- EX-200 - 200m from the roadside.

2.3.2 Receptor positions are summarised in Table 1. It should be noted that the designations are not directly adjacent to the roadside in all locations. As such, not all distances were included for all transects.

**Table 1 Modelled Discrete Receptor Locations**

Receptor		NGR (m)	
		X	Y
E1-150	Duddon Mosses SAC	321864	485712
E1-200	Duddon Mosses SAC	321907	485688
E2-150	Duddon Mosses SAC	322647	486321
E2-200	Duddon Mosses SAC	322629	486274

Receptor		NGR (m)	
		X	Y
E3-100	Duddon Mosses SAC	323052	485876
E3-150	Duddon Mosses SAC	323002	485876
E3-200	Duddon Mosses SAC	322952	485877
E4-0	Subberthwaite, Blawith and Torver Low Commons SAC	325870	484994
E4-50	Subberthwaite, Blawith and Torver Low Commons SAC	325875	485043
E4-100	Subberthwaite, Blawith and Torver Low Commons SAC	325880	485093
E4-150	Subberthwaite, Blawith and Torver Low Commons SAC	325885	485143
E4-200	Subberthwaite, Blawith and Torver Low Commons SAC	325890	485193
E5-0	Subberthwaite, Blawith and Torver Low Commons SAC	326328	484876
E5-50	Subberthwaite, Blawith and Torver Low Commons SAC	326347	484922
E5-100	Subberthwaite, Blawith and Torver Low Commons SAC	326367	484968
E5-150	Subberthwaite, Blawith and Torver Low Commons SAC	326387	485014
E5-200	Subberthwaite, Blawith and Torver Low Commons SAC	326406	485060
E6-0	Subberthwaite, Blawith and Torver Low Commons SAC	326831	484783
E6-50	Subberthwaite, Blawith and Torver Low Commons SAC	326855	484827
E6-100	Subberthwaite, Blawith and Torver Low Commons SAC	326879	484871
E6-150	Subberthwaite, Blawith and Torver Low Commons SAC	326903	484915
E6-200	Subberthwaite, Blawith and Torver Low Commons SAC	326927	484959
E7-150	Lake District High Fells SAC	333473	526623
E7-200	Lake District High Fells SAC	333446	526665
E8-100	Lake District High Fells SAC	334202	526957
E8-150	Lake District High Fells SAC	334186	527005
E8-200	Lake District High Fells SAC	334170	527053

2.3.3 Reference should be made to Figure 1 and Figure 2 for maps of the receptor locations.

## **2.4 Environmental Quality Standards**

2.4.1 A critical load is defined by the UK Air Pollution Information System (APIS)<sup>3</sup> as:

"A quantitative estimate of exposure to deposition of one or more pollutants, below which significant harmful effects on sensitive elements of the environment do not occur, according to present knowledge. The exceedance of a critical load is defined as the atmospheric deposition of the pollutant above the critical load."

2.4.2 A critical level is defined as:

"Threshold for direct effects of pollutant concentrations according to current knowledge. Exceedance of a critical level is defined as the atmospheric concentration of the pollutant above the critical level."

2.4.3 A critical load refers to deposition of a pollutant, while a critical level refers to pollutant concentrations in the atmosphere (which usually have direct effects on vegetation or human health).

2.4.4 When pollutant loads (or concentrations) exceed the critical load or level it is considered that there is a risk of harmful effects. The excess over the critical load or level is termed the exceedance. A larger exceedance is often considered to represent a greater risk of damage.

2.4.5 Maps of critical loads and levels and their exceedances have been used to show the potential extent of pollution damage and aid in developing strategies for reducing pollution. Decreasing deposition below the critical load is seen as means for preventing the risk of damage. However, even a decrease in the exceedance may infer that less damage will occur.

2.4.6 Table 2 presents the critical levels for the protection of vegetation for pollutants considered within this assessment.

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<sup>3</sup> UK Air Pollution Information System, [www.apis.ac.uk](http://www.apis.ac.uk).

**Table 2 Critical Levels for the Protection of Vegetation**

Pollutant	Critical Level	
	Concentration ( $\mu\text{g}/\text{m}^3$ )	Averaging Period
NO <sub>x</sub>	30	Annual mean
NH <sub>3</sub>	1 <sup>(a)</sup>	Annual mean
	3 <sup>(b)</sup>	Annual mean

NOTE: (a) Specified for the protection of lichens and bryophytes.

(b) Specified for the protection of higher plants.

2.4.7 Review of the APIS website<sup>4</sup> indicated that lichens and bryophytes are present within the three designations of interest. As such, a critical level of  $1\mu\text{g}/\text{m}^3$  was used throughout the assessment.

2.4.8 Nitrogen deposition critical loads for the habitats present at the discrete receptor positions were obtained from the APIS website<sup>5</sup> based on the Site of Special Scientific Interest (SSSI) unit information available from MAGIC<sup>6</sup> where relevant. These are presented in Table 3.

**Table 3 Critical Loads for Nitrogen Deposition**

Designation	Site Interest Feature	Relevant Nitrogen Critical Load Class	Nitrogen Critical Load (kgN/ha/yr)	
			Low	High
Duddon Mosses SAC	Active raised bogs (H7110)	Raised and blanket bogs	5	10
Subberthwaite, Blawith and Torver Low Commons SAC	Transition mires and quaking bogs (H7140)	Valley mires, poor fens and transition mires	10	15
Lake District High Fells SAC	European dry heaths (H4030)	Dry heaths	10	20

<sup>4</sup> UK Air Pollution Information System, [www.apis.ac.uk](http://www.apis.ac.uk).

<sup>5</sup> UK Air Pollution Information System, [www.apis.ac.uk](http://www.apis.ac.uk).

<sup>6</sup> [magic.defra.gov.uk/MagicMap.aspx](http://magic.defra.gov.uk/MagicMap.aspx).

2.4.9 Acid deposition critical loads for the habitats present at the discrete receptor positions were also obtained from the APIS website<sup>7</sup>. These are summarised in Table 4.

**Table 4 Critical Loads for Acid Deposition**

Designation	Site Interest Feature	Acidity Class	Acid Critical Load (keq/ha/yr)		
			CLMinN	CLMaxS	CLMaxN
Duddon Mosses SAC	Active raised bogs (H7110)	Bogs	0.321	0.371	0.692
Subberthwaite, Blawith and Torver Low Commons SAC	Transition mires and quaking bogs (H7140)	Bogs	0.321	0.518	0.839
Lake District High Fells SAC	European dry heaths (H4030)	Dwarf shrub heath	0.499	0.42	0.919

## 2.5 Baseline Pollution Levels

2.5.1 Baseline annual mean nitrogen dioxide (NO<sub>2</sub>) and NO<sub>x</sub> concentrations were obtained from the Department for Environment, Food and Rural Affairs (DEFRA) website<sup>8</sup> for each discrete receptor location. Baseline annual mean NH<sub>3</sub> concentrations and nitrogen deposition rates were obtained from the APIS website<sup>9</sup>. The relevant values are summarised in Table 5 for 2021.

**Table 5 Baseline Pollution Levels - 2021**

Receptor	Annual Mean Concentration (µg/m <sup>3</sup> )			Annual Deposition Rate		
	NO <sub>x</sub>	NO <sub>2</sub>	NH <sub>3</sub>	Nitrogen (kgN/ha/yr)	Acid (keq/ha/yr)	
					Nitrogen	Sulphur
E1-150	5.21	4.19	1.21	16.2	1.2	0.2
E1-200	5.21	4.19	1.21	16.2	1.2	0.2
E2-150	5.20	4.18	1.21	16.2	1.2	0.2
E2-200	5.20	4.18	1.21	16.2	1.2	0.2

<sup>7</sup> UK Air Pollution Information System, [www.apis.ac.uk](http://www.apis.ac.uk).

<sup>8</sup> <https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2018>.

<sup>9</sup> UK Air Pollution Information System, [www.apis.ac.uk](http://www.apis.ac.uk).

Receptor	Annual Mean Concentration ( $\mu\text{g}/\text{m}^3$ )			Annual Deposition Rate		
	NO <sub>x</sub>	NO <sub>2</sub>	NH <sub>3</sub>	Nitrogen (kgN/ha/yr)	Acid (keq/ha/yr)	
					Nitrogen	Sulphur
E3-100	5.49	4.40	1.21	16.2	1.2	0.2
E3-150	5.49	4.40	1.21	16.2	1.2	0.2
E3-200	4.88	3.93	1.21	16.2	1.2	0.2
E4-0	7.98	6.27	0.93	16.9	1.2	0.2
E4-50	5.58	4.47	0.93	16.9	1.2	0.2
E4-100	5.58	4.47	0.93	16.9	1.2	0.2
E4-150	5.58	4.47	0.93	16.9	1.2	0.2
E4-200	5.58	4.47	0.93	16.9	1.2	0.2
E5-0	5.66	4.53	0.93	16.9	1.2	0.2
E5-50	5.66	4.53	0.93	16.9	1.2	0.2
E5-100	5.66	4.53	0.93	16.9	1.2	0.2
E5-150	5.46	4.37	0.93	16.9	1.2	0.2
E5-200	5.46	4.37	0.93	16.9	1.2	0.2
E6-0	5.66	4.53	0.93	16.9	1.2	0.2
E6-50	5.66	4.53	0.93	16.9	1.2	0.2
E6-100	5.66	4.53	0.93	16.9	1.2	0.2
E6-150	5.66	4.53	0.93	16.9	1.2	0.2
E6-200	5.66	4.53	0.93	16.9	1.2	0.2
E7-150	5.30	4.26	0.85	24.0	1.7	0.3
E7-200	5.30	4.26	0.85	24.0	1.7	0.3
E8-100	5.09	4.09	0.85	24.0	1.7	0.3
E8-150	4.72	3.81	0.85	24.0	1.7	0.3
E8-200	4.72	3.81	0.85	24.0	1.7	0.3

2.5.2 The baseline levels for 2038 are summarised in Table 6. It should be noted that the DEFRA background maps have only been produced up to 2030. As such, this dataset was

utilised in lieu of alternative information. Additionally, APIS does not provide future predictions of pollution levels. As such, these have not been adjusted to ensure a worst-case representation of conditions during 2038.

**Table 6 Baseline Pollution Levels - 2038**

Receptor	Annual Mean Concentration ( $\mu\text{g}/\text{m}^3$ )			Annual Deposition Rate		
	NO <sub>x</sub>	NO <sub>2</sub>	NH <sub>3</sub>	Nitrogen (kgN/ha/yr)	Acid (keq/ha/yr)	
					Nitrogen	Sulphur
E1-150	4.13	3.34	1.21	16.2	1.2	0.2
E1-200	4.13	3.34	1.21	16.2	1.2	0.2
E2-150	4.12	3.33	1.21	16.2	1.2	0.2
E2-200	4.12	3.33	1.21	16.2	1.2	0.2
E3-100	4.34	3.51	1.21	16.2	1.2	0.2
E3-150	4.34	3.51	1.21	16.2	1.2	0.2
E3-200	3.97	3.22	1.21	16.2	1.2	0.2
E4-0	6.92	5.48	0.93	16.9	1.2	0.2
E4-50	4.59	3.70	0.93	16.9	1.2	0.2
E4-100	4.59	3.70	0.93	16.9	1.2	0.2
E4-150	4.59	3.70	0.93	16.9	1.2	0.2
E4-200	4.59	3.70	0.93	16.9	1.2	0.2
E5-0	4.63	3.73	0.93	16.9	1.2	0.2
E5-50	4.63	3.73	0.93	16.9	1.2	0.2
E5-100	4.63	3.73	0.93	16.9	1.2	0.2
E5-150	4.53	3.65	0.93	16.9	1.2	0.2
E5-200	4.53	3.65	0.93	16.9	1.2	0.2
E6-0	4.63	3.73	0.93	16.9	1.2	0.2
E6-50	4.63	3.73	0.93	16.9	1.2	0.2
E6-100	4.63	3.73	0.93	16.9	1.2	0.2
E6-150	4.63	3.73	0.93	16.9	1.2	0.2

Receptor	Annual Mean Concentration ( $\mu\text{g}/\text{m}^3$ )			Annual Deposition Rate		
	NO <sub>x</sub>	NO <sub>2</sub>	NH <sub>3</sub>	Nitrogen (kgN/ha/yr)	Acid (keq/ha/yr)	
					Nitrogen	Sulphur
E6-200	4.63	3.73	0.93	16.9	1.2	0.2
E7-150	4.02	3.26	0.85	24.0	1.7	0.3
E7-200	4.02	3.26	0.85	24.0	1.7	0.3
E8-100	3.92	3.18	0.85	24.0	1.7	0.3
E8-150	3.73	3.03	0.85	24.0	1.7	0.3
E8-200	3.73	3.03	0.85	24.0	1.7	0.3

## 2.6 Traffic Flow Data

2.6.1 Traffic data for use in the assessment, including 24-hour Annual Average Daily Traffic (AADT) flows and fleet composition as Heavy Duty Vehicle (HDV) proportion, was provided by David Archer Associates. Road widths and vehicle speeds were estimated from aerial photography and UK highway design standards. A summary of the data is provided in Table 7.

**Table 7 Traffic Data**

Link		24-hour AADT Flow			HDV Prop. of Fleet (%)	Mean Vehicle Speed (km/h)	Road Width (m)
		RCS	LPS	LPHGS			
L1	A595	7,890	8,064	8,349	14.1	80	7.3
L2	A5092	9,400	9,502	9,788	12.5	80	7.3
L3	A66	17,756	17,634	18,038	8.2	80	7.3

2.6.2 Reference should be made to Figure 1 and Figure 2 for maps of the road link locations.

## 2.7 Emission Factors

2.7.1 Emission factors for each link were calculated using the relevant traffic flows and the Emissions Factor Toolkit (version 11.0). This has been produced by DEFRA and incorporates COPERT 5.3 vehicle emission factors and fleet information.

2.7.2 Emission factors of NH<sub>3</sub> for each link were calculated using the relevant traffic flows and the Calculator for Road Emissions of Ammonia (CREAM) workbook released by Air Quality Consultants Ltd (AQC) in 2020. Reference should be made to the accompanying report<sup>10</sup> for details of the calculation methodology. It should be noted that CREAM only includes predictions up to 2035. As such, this dataset was utilised in lieu of alternative information.

## **2.8 Meteorological Data**

2.8.1 Meteorological data used in the assessment was taken from Shap meteorological station over the period 1<sup>st</sup> January 2020 to 31<sup>st</sup> December 2020 (inclusive). This observation site is located at NGR: 355739, 512068.

2.8.2 All meteorological records used in the assessment were provided by Atmospheric Dispersion Modelling Ltd, which is an established distributor of data within the UK. Reference should be made to Figure 3 for a wind rose of utilised meteorological data.

## **2.9 Roughness Length**

2.9.1 The roughness length ( $z_0$ ) is a modelling parameter applied to allow consideration of surface height roughness elements. A  $z_0$  of 0.2m was used to describe the modelling extents and meteorological site. This is considered appropriate for the morphology of both areas and is suggested within ADMS-Roads as being suitable for 'agricultural areas (min)'.

## **2.10 Monin-Obukhov Length**

2.10.1 The Monin-Obukhov length provides a measure of the stability of the atmosphere. A minimum Monin-Obukhov length of 1m was used to describe the modelling extents and meteorological site. This value is considered appropriate for the nature of both areas and is suggested within ADMS-Roads as being suitable for 'rural areas'.

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<sup>10</sup> Ammonia Emissions from Roads for Assessing Impacts on Nitrogen-sensitive Habitats, AQC, 2020.

## 2.11 NO<sub>x</sub> to NO<sub>2</sub> Conversion

2.11.1 Predicted annual mean NO<sub>x</sub> concentrations were converted to NO<sub>2</sub> concentrations using the spreadsheet (version 8.1) provided by DEFRA. This is the method detailed within DEFRA guidance<sup>11</sup>.

## 2.12 Nitrogen Deposition

2.12.1 Nitrogen deposition rates were calculated using the conversion factors provided within the IAQM document 'A guide to the assessment of air quality impacts on designated nature conservation sites'<sup>12</sup>. Predicted pollutant concentrations were multiplied by the relevant deposition velocity and conversion factor to calculate the speciated dry deposition flux. The conversion factors used for the determination of nitrogen deposition are presented within Table 8.

**Table 8 Conversion Factors to Determine Dry Deposition Flux for Nitrogen Deposition**

Pollutant	Deposition Velocity (m/s)		Conversion Factor (µg/m <sup>2</sup> /s to kg/ha/yr of pollutant species)
	Grassland	Forest	
NO <sub>2</sub>	0.0015	0.003	95.9
NH <sub>3</sub>	0.020	0.030	260

2.12.2 The relevant deposition velocity for each ecological receptor was selected from Table 8 based on the vegetation type at the specific location.

## 2.13 Acid Deposition

2.13.1 Predicted ground level NO<sub>2</sub> and NH<sub>3</sub> concentrations were converted to kilo-equivalent ion depositions (keq/ha/yr) for comparison with the critical load for acid deposition at each of the identified ecological receptors. The conversion to units of equivalents, a measure of the potential acidifying effect of a species, was undertaken using the standard conversion factors shown in Table 9.

<sup>11</sup> Local Air Quality Management Technical Guidance (TG16), DEFRA, 2021.

<sup>12</sup> A guide to the assessment of air quality impacts on designated nature conservation sites v1.1., IAQM, 2020.

**Table 9 Conversion Factors to Determine Dry Deposition Flux for Acid Deposition**

Pollutant	Deposition Velocity (m/s)		Conversion Factor ( $\mu\text{g}/\text{m}^2/\text{s}$ to $\text{keq}/\text{ha}/\text{yr}$ of pollutant species)
	Grassland	Forest	
NO <sub>2</sub>	0.0015	0.003	6.84
NH <sub>3</sub>	0.020	0.030	18.5

### 3.0 **RESULTS**

#### 3.1 **2038 Predictions**

3.1.1 Predicted pollution levels using 2038 emission factors and background values are summarised in the following Sections. It should be noted that results are presented inclusive of the relevant baseline values shown in Table 6.

##### **Oxides of Nitrogen**

3.1.2 Annual mean NO<sub>x</sub> concentrations were predicted at the sensitive receptor locations for the RCS, LPS and LPHGS scenarios. These are summarised in Table 10.

**Table 10 Predicted Annual Mean NO<sub>x</sub> Concentrations**

Receptor		Predicted Annual Mean NO <sub>x</sub> Concentration (µg/m <sup>3</sup> )		
		RCS	LPS	LPHGS
E1-150	Duddon Mosses SAC	4.66	4.67	4.69
E1-200	Duddon Mosses SAC	4.54	4.55	4.56
E2-150	Duddon Mosses SAC	4.66	4.68	4.70
E2-200	Duddon Mosses SAC	4.59	4.60	4.61
E3-100	Duddon Mosses SAC	4.92	4.94	4.96
E3-150	Duddon Mosses SAC	4.80	4.81	4.83
E3-200	Duddon Mosses SAC	4.36	4.36	4.38
E4-0	Subberthwaite, Blawith and Torver Low Commons SAC	11.19	11.24	11.36
E4-50	Subberthwaite, Blawith and Torver Low Commons SAC	6.45	6.47	6.52
E4-100	Subberthwaite, Blawith and Torver Low Commons SAC	5.90	5.92	5.96
E4-150	Subberthwaite, Blawith and Torver Low Commons SAC	5.64	5.65	5.68
E4-200	Subberthwaite, Blawith and Torver Low Commons SAC	5.49	5.50	5.52
E5-0	Subberthwaite, Blawith and Torver Low Commons SAC	8.97	9.02	9.15
E5-50	Subberthwaite, Blawith and Torver Low Commons SAC	6.51	6.53	6.58

Receptor		Predicted Annual Mean NO <sub>x</sub> Concentration (µg/m <sup>3</sup> )		
		RCS	LPS	LPHGS
E5-100	Subberthwaite, Blawith and Torver Low Commons SAC	5.93	5.95	5.99
E5-150	Subberthwaite, Blawith and Torver Low Commons SAC	5.55	5.56	5.59
E5-200	Subberthwaite, Blawith and Torver Low Commons SAC	5.38	5.39	5.41
E6-0	Subberthwaite, Blawith and Torver Low Commons SAC	8.69	8.73	8.85
E6-50	Subberthwaite, Blawith and Torver Low Commons SAC	6.45	6.47	6.52
E6-100	Subberthwaite, Blawith and Torver Low Commons SAC	5.88	5.89	5.93
E6-150	Subberthwaite, Blawith and Torver Low Commons SAC	5.61	5.62	5.65
E6-200	Subberthwaite, Blawith and Torver Low Commons SAC	5.45	5.46	5.49
E7-150	Lake District High Fells SAC	5.42	5.41	5.44
E7-200	Lake District High Fells SAC	5.12	5.11	5.13
E8-100	Lake District High Fells SAC	6.03	6.02	6.07
E8-150	Lake District High Fells SAC	5.31	5.30	5.33
E8-200	Lake District High Fells SAC	4.98	4.98	5.00

3.1.3 As indicated in Table 10, predicted annual mean NO<sub>x</sub> concentrations were below the relevant critical level of 30µg/m<sup>3</sup> at all receptors for all scenarios.

### Ammonia

3.1.4 Annual mean NH<sub>3</sub> concentrations were predicted at the sensitive receptor locations for the RCS, LPS and LPHGS scenarios. These are summarised in Table 11.

**Table 11 Predicted Annual Mean NH<sub>3</sub> Concentrations**

Receptor		Predicted Annual Mean NH <sub>3</sub> Concentration (µg/m <sup>3</sup> )		
		RCS	LPS	LPHGS
E1-150	Duddon Mosses SAC	1.44	1.45	1.46
E1-200	Duddon Mosses SAC	1.39	1.39	1.40

Receptor		Predicted Annual Mean NH <sub>3</sub> Concentration (µg/m <sup>3</sup> )		
		RCS	LPS	LPHGS
E2-150	Duddon Mosses SAC	1.45	1.46	1.47
E2-200	Duddon Mosses SAC	1.42	1.42	1.43
E3-100	Duddon Mosses SAC	1.47	1.47	1.48
E3-150	Duddon Mosses SAC	1.41	1.42	1.43
E3-200	Duddon Mosses SAC	1.38	1.39	1.39
E4-0	Subberthwaite, Blawith and Torver Low Commons SAC	2.78	2.80	2.85
E4-50	Subberthwaite, Blawith and Torver Low Commons SAC	1.73	1.74	1.77
E4-100	Subberthwaite, Blawith and Torver Low Commons SAC	1.50	1.50	1.52
E4-150	Subberthwaite, Blawith and Torver Low Commons SAC	1.38	1.39	1.40
E4-200	Subberthwaite, Blawith and Torver Low Commons SAC	1.32	1.32	1.34
E5-0	Subberthwaite, Blawith and Torver Low Commons SAC	2.81	2.83	2.89
E5-50	Subberthwaite, Blawith and Torver Low Commons SAC	1.74	1.75	1.78
E5-100	Subberthwaite, Blawith and Torver Low Commons SAC	1.49	1.50	1.52
E5-150	Subberthwaite, Blawith and Torver Low Commons SAC	1.37	1.38	1.39
E5-200	Subberthwaite, Blawith and Torver Low Commons SAC	1.30	1.30	1.31
E6-0	Subberthwaite, Blawith and Torver Low Commons SAC	2.69	2.71	2.76
E6-50	Subberthwaite, Blawith and Torver Low Commons SAC	1.72	1.73	1.75
E6-100	Subberthwaite, Blawith and Torver Low Commons SAC	1.47	1.48	1.49
E6-150	Subberthwaite, Blawith and Torver Low Commons SAC	1.35	1.36	1.37
E6-200	Subberthwaite, Blawith and Torver Low Commons SAC	1.29	1.29	1.30
E7-150	Lake District High Fells SAC	1.41	1.41	1.42
E7-200	Lake District High Fells SAC	1.29	1.29	1.30
E8-100	Lake District High Fells SAC	1.70	1.70	1.71
E8-150	Lake District High Fells SAC	1.49	1.48	1.50
E8-200	Lake District High Fells SAC	1.36	1.35	1.36

- 3.1.5 As indicated in Table 11, predicted annual mean NH<sub>3</sub> concentrations were above the relevant critical level of 1µg/m<sup>3</sup> at all receptors for all scenarios.
- 3.1.6 It is noted that NH<sub>3</sub> emissions from road vehicles are predicted to increase between 2021 and 2038. This is due to controls on exhaust NO<sub>x</sub> emissions and the anticipated shift in fleet towards vehicles requiring abatement with associated potential for NH<sub>3</sub> slip.
- 3.1.7 No improvement in background NH<sub>3</sub> concentrations has been assumed up to 2038. This is likely to overestimate total pollution levels as government policies, including those outlined in the 'Clean Air Strategy 2019'<sup>13</sup>, are designed to reduce NH<sub>3</sub> emissions. Measures aimed at the agricultural sector, which caused 88% of UK NH<sub>3</sub> emissions during 2016, are predicted to reduce overall emissions by 9% against a 2016 baseline by 2020 and 23% by 2030<sup>14</sup>. As such, the future year predictions should be viewed with caution.

### Nitrogen Deposition

- 3.1.8 Annual nitrogen deposition was predicted at the sensitive receptor locations for the RCS, LPS and LPHGS scenarios. These are summarised in Table 12.

**Table 12 Predicted Annual Nitrogen Deposition**

Receptor		Predicted Annual Nitrogen Deposition (kgN/ha/yr)		
		RCS	LPS	LPHGS
E1-150	Duddon Mosses SAC	17.46	17.49	17.54
E1-200	Duddon Mosses SAC	17.17	17.19	17.23
E2-150	Duddon Mosses SAC	17.51	17.53	17.58
E2-200	Duddon Mosses SAC	17.32	17.34	17.39
E3-100	Duddon Mosses SAC	17.59	17.62	17.67
E3-150	Duddon Mosses SAC	17.30	17.32	17.36
E3-200	Duddon Mosses SAC	17.13	17.15	17.18

<sup>13</sup> Clean Air Strategy 2019, DEFRA, 2019.

<sup>14</sup> Clean Air Strategy 2019, DEFRA, 2019.

Receptor		Predicted Annual Nitrogen Deposition (kgN/ha/yr)		
		RCS	LPS	LPHGS
E4-0	Subberthwaite, Blawith and Torver Low Commons SAC	26.85	26.96	27.26
E4-50	Subberthwaite, Blawith and Torver Low Commons SAC	21.23	21.28	21.41
E4-100	Subberthwaite, Blawith and Torver Low Commons SAC	19.96	20.00	20.09
E4-150	Subberthwaite, Blawith and Torver Low Commons SAC	19.35	19.38	19.45
E4-200	Subberthwaite, Blawith and Torver Low Commons SAC	19.00	19.02	19.08
E5-0	Subberthwaite, Blawith and Torver Low Commons SAC	27.02	27.13	27.43
E5-50	Subberthwaite, Blawith and Torver Low Commons SAC	21.28	21.32	21.46
E5-100	Subberthwaite, Blawith and Torver Low Commons SAC	19.94	19.97	20.06
E5-150	Subberthwaite, Blawith and Torver Low Commons SAC	19.28	19.31	19.38
E5-200	Subberthwaite, Blawith and Torver Low Commons SAC	18.88	18.91	18.96
E6-0	Subberthwaite, Blawith and Torver Low Commons SAC	26.36	26.47	26.75
E6-50	Subberthwaite, Blawith and Torver Low Commons SAC	21.14	21.18	21.31
E6-100	Subberthwaite, Blawith and Torver Low Commons SAC	19.82	19.85	19.93
E6-150	Subberthwaite, Blawith and Torver Low Commons SAC	19.19	19.21	19.28
E6-200	Subberthwaite, Blawith and Torver Low Commons SAC	18.82	18.84	18.90
E7-150	Lake District High Fells SAC	27.04	27.01	27.08
E7-200	Lake District High Fells SAC	26.38	26.36	26.42
E8-100	Lake District High Fells SAC	28.60	28.57	28.67
E8-150	Lake District High Fells SAC	27.43	27.41	27.48
E8-200	Lake District High Fells SAC	26.73	26.71	26.77

3.1.9 As indicated in Table 12, predicted annual nitrogen deposition was above the lower critical load at all receptors for all scenarios. This is partly due to the baseline exceedences, as shown in Table 6.

## Acid Deposition

3.1.10 Annual acid deposition (nitrogen element in isolation) was predicted at the sensitive receptor locations for the RCS, LPS and LPHGS scenarios. These are summarised in Table 13.

**Table 13 Predicted Annual Acid Deposition**

Receptor		Predicted Annual Acid Deposition (keq/ha/yr)		
		RCS	LPS	LPHGS
E1-150	Duddon Mosses SAC	1.29	1.29	1.30
E1-200	Duddon Mosses SAC	1.27	1.27	1.27
E2-150	Duddon Mosses SAC	1.29	1.29	1.30
E2-200	Duddon Mosses SAC	1.28	1.28	1.28
E3-100	Duddon Mosses SAC	1.30	1.30	1.30
E3-150	Duddon Mosses SAC	1.28	1.28	1.28
E3-200	Duddon Mosses SAC	1.27	1.27	1.27
E4-0	Subberthwaite, Blawith and Torver Low Commons SAC	1.91	1.92	1.94
E4-50	Subberthwaite, Blawith and Torver Low Commons SAC	1.51	1.51	1.52
E4-100	Subberthwaite, Blawith and Torver Low Commons SAC	1.42	1.42	1.43
E4-150	Subberthwaite, Blawith and Torver Low Commons SAC	1.37	1.38	1.38
E4-200	Subberthwaite, Blawith and Torver Low Commons SAC	1.35	1.35	1.36
E5-0	Subberthwaite, Blawith and Torver Low Commons SAC	1.92	1.93	1.95
E5-50	Subberthwaite, Blawith and Torver Low Commons SAC	1.51	1.51	1.52
E5-100	Subberthwaite, Blawith and Torver Low Commons SAC	1.42	1.42	1.43
E5-150	Subberthwaite, Blawith and Torver Low Commons SAC	1.37	1.37	1.38
E5-200	Subberthwaite, Blawith and Torver Low Commons SAC	1.34	1.34	1.35
E6-0	Subberthwaite, Blawith and Torver Low Commons SAC	1.87	1.88	1.90
E6-50	Subberthwaite, Blawith and Torver Low Commons SAC	1.50	1.50	1.51
E6-100	Subberthwaite, Blawith and Torver Low Commons SAC	1.41	1.41	1.42

Receptor		Predicted Annual Acid Deposition (keq/ha/yr)		
		RCS	LPS	LPHGS
E6-150	Subberthwaite, Blawith and Torver Low Commons SAC	1.36	1.36	1.37
E6-200	Subberthwaite, Blawith and Torver Low Commons SAC	1.34	1.34	1.34
E7-150	Lake District High Fells SAC	1.92	1.91	1.92
E7-200	Lake District High Fells SAC	1.87	1.87	1.87
E8-100	Lake District High Fells SAC	2.03	2.02	2.03
E8-150	Lake District High Fells SAC	1.94	1.94	1.95
E8-200	Lake District High Fells SAC	1.89	1.89	1.90

### 3.2 2021 Predictions

3.2.1 Predicted pollution levels using 2021 emission factors and background values are summarised in the following Sections. It should be noted that results are presented inclusive of the relevant baseline values shown in Table 5.

#### **Oxides of Nitrogen**

3.2.2 Annual mean NO<sub>x</sub> concentrations were predicted at the sensitive receptor locations for the RCS, LPS and LPHGS scenarios. These are summarised in Table 14.

**Table 14 Predicted Annual Mean NO<sub>x</sub> Concentrations**

Receptor		Predicted Annual Mean NO <sub>x</sub> Concentration (µg/m <sup>3</sup> )		
		RCS	LPS	LPHGS
E1-150	Duddon Mosses SAC	6.90	6.94	7.00
E1-200	Duddon Mosses SAC	6.52	6.54	6.59
E2-150	Duddon Mosses SAC	6.94	6.98	7.04
E2-200	Duddon Mosses SAC	6.70	6.73	6.79
E3-100	Duddon Mosses SAC	7.35	7.39	7.46
E3-150	Duddon Mosses SAC	6.96	6.99	7.05

Receptor		Predicted Annual Mean NO <sub>x</sub> Concentration (µg/m <sup>3</sup> )		
		RCS	LPS	LPHGS
E3-200	Duddon Mosses SAC	6.12	6.15	6.19
E4-0	Subberthwaite, Blawith and Torver Low Commons SAC	21.06	21.20	21.58
E4-50	Subberthwaite, Blawith and Torver Low Commons SAC	11.32	11.38	11.55
E4-100	Subberthwaite, Blawith and Torver Low Commons SAC	9.70	9.74	9.87
E4-150	Subberthwaite, Blawith and Torver Low Commons SAC	8.91	8.94	9.04
E4-200	Subberthwaite, Blawith and Torver Low Commons SAC	8.43	8.46	8.55
E5-0	Subberthwaite, Blawith and Torver Low Commons SAC	19.18	19.32	19.71
E5-50	Subberthwaite, Blawith and Torver Low Commons SAC	11.44	11.50	11.67
E5-100	Subberthwaite, Blawith and Torver Low Commons SAC	9.73	9.77	9.89
E5-150	Subberthwaite, Blawith and Torver Low Commons SAC	8.68	8.71	8.81
E5-200	Subberthwaite, Blawith and Torver Low Commons SAC	8.15	8.18	8.26
E6-0	Subberthwaite, Blawith and Torver Low Commons SAC	18.03	18.15	18.51
E6-50	Subberthwaite, Blawith and Torver Low Commons SAC	11.24	11.30	11.46
E6-100	Subberthwaite, Blawith and Torver Low Commons SAC	9.57	9.61	9.73
E6-150	Subberthwaite, Blawith and Torver Low Commons SAC	8.77	8.80	8.89
E6-200	Subberthwaite, Blawith and Torver Low Commons SAC	8.28	8.31	8.39
E7-150	Lake District High Fells SAC	9.73	9.70	9.80
E7-200	Lake District High Fells SAC	8.79	8.76	8.84
E8-100	Lake District High Fells SAC	11.73	11.68	11.83
E8-150	Lake District High Fells SAC	9.73	9.69	9.81
E8-200	Lake District High Fells SAC	8.72	8.69	8.78

3.2.3 As indicated in Table 14, predicted annual mean NO<sub>x</sub> concentrations were below the relevant critical level of 30µg/m<sup>3</sup> at all receptors for all scenarios.

## Ammonia

3.2.4 Annual mean NH<sub>3</sub> concentrations were predicted at the sensitive receptor locations for the RCS, LPS and LPHGS scenarios. These are summarised in Table 15.

**Table 15 Predicted Annual Mean NH<sub>3</sub> Concentrations**

Receptor		Predicted Annual Mean NH <sub>3</sub> Concentration (µg/m <sup>3</sup> )		
		RCS	LPS	LPHGS
E1-150	Duddon Mosses SAC	1.41	1.41	1.42
E1-200	Duddon Mosses SAC	1.36	1.36	1.37
E2-150	Duddon Mosses SAC	1.42	1.42	1.43
E2-200	Duddon Mosses SAC	1.39	1.39	1.40
E3-100	Duddon Mosses SAC	1.43	1.43	1.44
E3-150	Duddon Mosses SAC	1.38	1.38	1.39
E3-200	Duddon Mosses SAC	1.36	1.36	1.37
E4-0	Subberthwaite, Blawith and Torver Low Commons SAC	2.43	2.43	2.49
E4-50	Subberthwaite, Blawith and Torver Low Commons SAC	1.59	1.59	1.61
E4-100	Subberthwaite, Blawith and Torver Low Commons SAC	1.40	1.40	1.42
E4-150	Subberthwaite, Blawith and Torver Low Commons SAC	1.31	1.31	1.33
E4-200	Subberthwaite, Blawith and Torver Low Commons SAC	1.26	1.26	1.27
E5-0	Subberthwaite, Blawith and Torver Low Commons SAC	2.48	2.48	2.54
E5-50	Subberthwaite, Blawith and Torver Low Commons SAC	1.59	1.59	1.62
E5-100	Subberthwaite, Blawith and Torver Low Commons SAC	1.40	1.40	1.42
E5-150	Subberthwaite, Blawith and Torver Low Commons SAC	1.30	1.30	1.31
E5-200	Subberthwaite, Blawith and Torver Low Commons SAC	1.24	1.24	1.25
E6-0	Subberthwaite, Blawith and Torver Low Commons SAC	2.35	2.35	2.40
E6-50	Subberthwaite, Blawith and Torver Low Commons SAC	1.57	1.57	1.60
E6-100	Subberthwaite, Blawith and Torver Low Commons SAC	1.38	1.38	1.40
E6-150	Subberthwaite, Blawith and Torver Low Commons SAC	1.29	1.29	1.30

Receptor		Predicted Annual Mean NH <sub>3</sub> Concentration (µg/m <sup>3</sup> )		
		RCS	LPS	LPHGS
E6-200	Subberthwaite, Blawith and Torver Low Commons SAC	1.23	1.23	1.24
E7-150	Lake District High Fells SAC	1.31	1.31	1.32
E7-200	Lake District High Fells SAC	1.21	1.21	1.22
E8-100	Lake District High Fells SAC	1.54	1.54	1.55
E8-150	Lake District High Fells SAC	1.37	1.37	1.38
E8-200	Lake District High Fells SAC	1.27	1.26	1.27

3.2.5 As indicated in Table 15, predicted annual mean NH<sub>3</sub> concentrations were above the relevant critical level of 1µg/m<sup>3</sup> at all receptors for all scenarios.

### Nitrogen Deposition

3.2.6 Annual nitrogen deposition was predicted at the sensitive receptor locations for the RCS, LPS and LPHGS scenarios. These are summarised in Table 16.

**Table 16 Predicted Annual Nitrogen Deposition**

Receptor		Predicted Annual Nitrogen Deposition (kgN/ha/yr)		
		RCS	LPS	LPHGS
E1-150	Duddon Mosses SAC	17.38	17.24	17.30
E1-200	Duddon Mosses SAC	17.11	17.00	17.05
E2-150	Duddon Mosses SAC	17.41	17.27	17.33
E2-200	Duddon Mosses SAC	17.24	17.12	17.17
E3-100	Duddon Mosses SAC	17.50	17.35	17.41
E3-150	Duddon Mosses SAC	17.23	17.11	17.16
E3-200	Duddon Mosses SAC	17.07	16.96	17.01
E4-0	Subberthwaite, Blawith and Torver Low Commons SAC	25.74	24.70	25.01
E4-50	Subberthwaite, Blawith and Torver Low Commons SAC	20.79	20.32	20.46

Receptor		Predicted Annual Nitrogen Deposition (kgN/ha/yr)		
		RCS	LPS	LPHGS
E4-100	Subberthwaite, Blawith and Torver Low Commons SAC	19.69	19.36	19.46
E4-150	Subberthwaite, Blawith and Torver Low Commons SAC	19.16	18.89	18.97
E4-200	Subberthwaite, Blawith and Torver Low Commons SAC	18.83	18.60	18.67
E5-0	Subberthwaite, Blawith and Torver Low Commons SAC	26.04	24.96	25.28
E5-50	Subberthwaite, Blawith and Torver Low Commons SAC	20.82	20.35	20.48
E5-100	Subberthwaite, Blawith and Torver Low Commons SAC	19.66	19.33	19.43
E5-150	Subberthwaite, Blawith and Torver Low Commons SAC	19.08	18.82	18.90
E5-200	Subberthwaite, Blawith and Torver Low Commons SAC	18.73	18.51	18.57
E6-0	Subberthwaite, Blawith and Torver Low Commons SAC	25.26	24.27	24.56
E6-50	Subberthwaite, Blawith and Torver Low Commons SAC	20.68	20.23	20.36
E6-100	Subberthwaite, Blawith and Torver Low Commons SAC	19.55	19.23	19.33
E6-150	Subberthwaite, Blawith and Torver Low Commons SAC	19.01	18.75	18.83
E6-200	Subberthwaite, Blawith and Torver Low Commons SAC	18.68	18.46	18.53
E7-150	Lake District High Fells SAC	26.77	26.39	26.44
E7-200	Lake District High Fells SAC	26.18	25.88	25.92
E8-100	Lake District High Fells SAC	28.14	27.58	27.66
E8-150	Lake District High Fells SAC	27.12	26.70	26.76
E8-200	Lake District High Fells SAC	26.49	26.15	26.20

3.2.7 As indicated in Table 16, predicted annual nitrogen deposition was above the lower critical load at all receptors for all scenarios.

### Acid Deposition

3.2.8 Annual acid deposition (nitrogen element in isolation) was predicted at the sensitive receptor locations for the RCS, LPS and LPHGS scenarios. These are summarised in Table 17.

**Table 17 Predicted Annual Acid Deposition**

Receptor		Predicted Annual Acid Deposition (keq/ha/yr)		
		RCS	LPS	LPHGS
E1-150	Duddon Mosses SAC	1.28	1.27	1.28
E1-200	Duddon Mosses SAC	1.26	1.26	1.26
E2-150	Duddon Mosses SAC	1.29	1.28	1.28
E2-200	Duddon Mosses SAC	1.27	1.27	1.27
E3-100	Duddon Mosses SAC	1.29	1.28	1.29
E3-150	Duddon Mosses SAC	1.27	1.26	1.27
E3-200	Duddon Mosses SAC	1.26	1.25	1.26
E4-0	Subberthwaite, Blawith and Torver Low Commons SAC	1.83	1.75	1.78
E4-50	Subberthwaite, Blawith and Torver Low Commons SAC	1.48	1.44	1.45
E4-100	Subberthwaite, Blawith and Torver Low Commons SAC	1.40	1.37	1.38
E4-150	Subberthwaite, Blawith and Torver Low Commons SAC	1.36	1.34	1.35
E4-200	Subberthwaite, Blawith and Torver Low Commons SAC	1.34	1.32	1.33
E5-0	Subberthwaite, Blawith and Torver Low Commons SAC	1.85	1.77	1.80
E5-50	Subberthwaite, Blawith and Torver Low Commons SAC	1.48	1.45	1.46
E5-100	Subberthwaite, Blawith and Torver Low Commons SAC	1.40	1.37	1.38
E5-150	Subberthwaite, Blawith and Torver Low Commons SAC	1.36	1.34	1.34
E5-200	Subberthwaite, Blawith and Torver Low Commons SAC	1.33	1.31	1.32
E6-0	Subberthwaite, Blawith and Torver Low Commons SAC	1.80	1.72	1.75
E6-50	Subberthwaite, Blawith and Torver Low Commons SAC	1.47	1.44	1.45
E6-100	Subberthwaite, Blawith and Torver Low Commons SAC	1.39	1.37	1.37
E6-150	Subberthwaite, Blawith and Torver Low Commons SAC	1.35	1.33	1.34
E6-200	Subberthwaite, Blawith and Torver Low Commons SAC	1.33	1.31	1.32
E7-150	Lake District High Fells SAC	1.90	1.87	1.87
E7-200	Lake District High Fells SAC	1.85	1.83	1.84
E8-100	Lake District High Fells SAC	1.99	1.95	1.96

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Receptor		Predicted Annual Acid Deposition (keq/ha/yr)		
		RCS	LPS	LPHGS
E8-150	Lake District High Fells SAC	1.92	1.89	1.90
E8-200	Lake District High Fells SAC	1.88	1.85	1.86

## **4.0 SUMMARY**

4.1.1 Redmore Environmental Ltd was commissioned by Copeland Borough Council to undertake an Ecological Air Quality Assessment in relation to the Copeland Local Plan.

4.1.2 The Copeland Local Plan has the potential to cause impacts at ecological designations as a result of road traffic exhaust emissions from increased traffic generation. Dispersion modelling was therefore undertaken to quantify NO<sub>x</sub>, NH<sub>3</sub> concentrations and annual nitrogen and acid deposition levels for three potential scenarios.

4.1.3 The results of the dispersion modelling assessment indicated that predicted annual mean NO<sub>x</sub> concentrations were below the relevant critical level at all receptors for all scenarios considered. Annual mean NH<sub>3</sub> concentrations and annual nitrogen deposition exceeded the relevant critical level and loads at all locations. This was partly due to the high baseline values throughout the assessment extents.

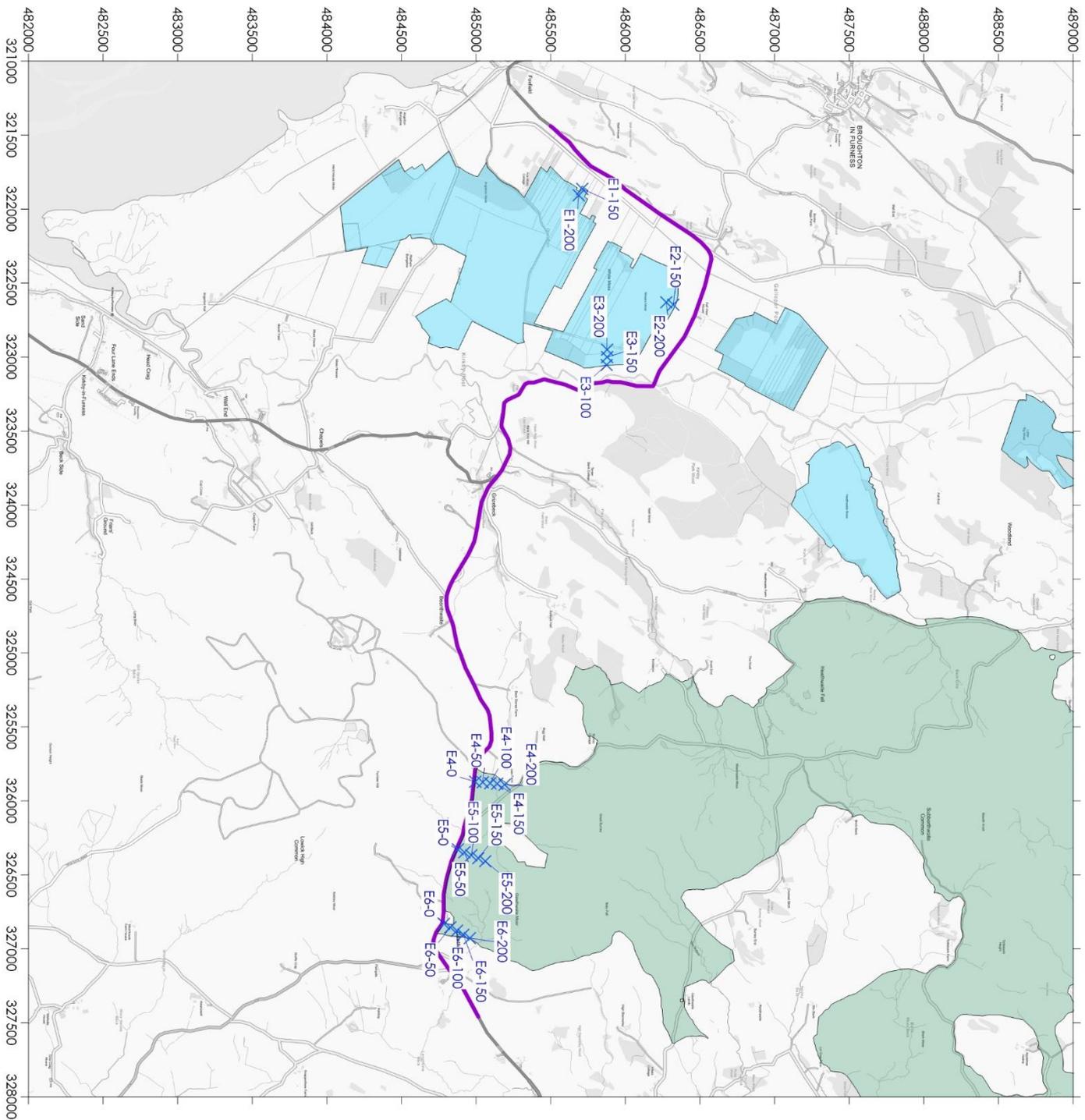
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## 5.0 **ABBREVIATIONS**

AADT	Annual Average Daily Traffic
APIS	Air Pollution Information System
AQC	Air Quality Consultants Ltd
CREAM	Calculator for Road Emissions of Ammonia
DEFRA	Department for Environment, Food and Rural Affairs
HDV	Heavy Duty Vehicle
HRA	Habitats Regulations Assessment
IAQM	Institute of Air Quality Management
LPHGS	Local Plan High Growth Scenario
LPS	Local Plan Scenario
NE	Natural England
NH <sub>3</sub>	Ammonia
NO <sub>2</sub>	Nitrogen dioxide
NO <sub>x</sub>	Oxides of nitrogen
RCS	Reference Case Scenario
SAC	Special Area of Conservation
SSSI	Site of Special Scientific Interest
Z <sub>0</sub>	Roughness length

**Figures**

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**Legend**

Subberthwaite, Blawith and Torver Low Commons SAC

Duddon Mosses SAC

X Discrete Receptor

Modelled Road Link

**Title**  
Figure 1 - A595 and A5092 Modelling Area

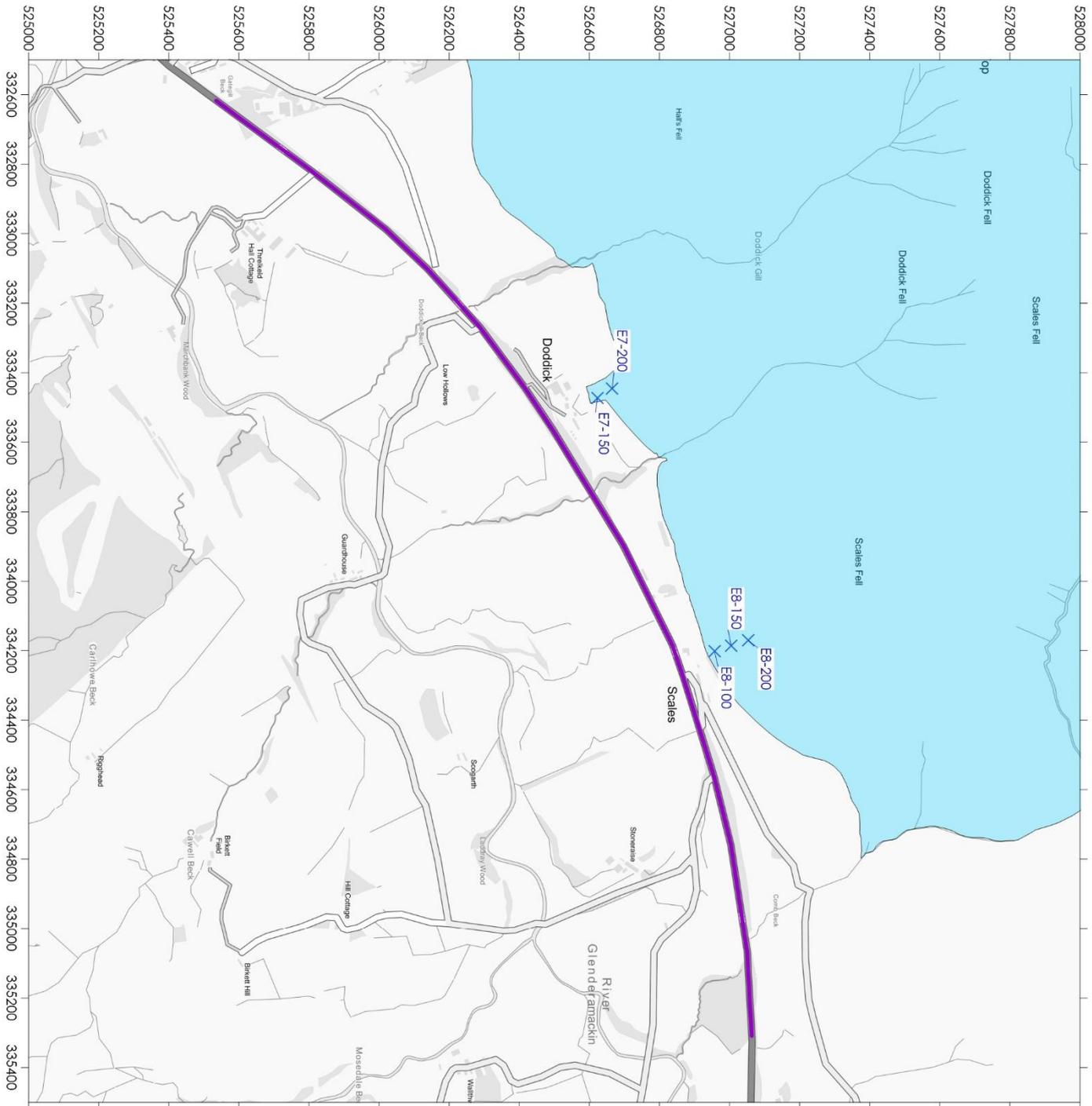
**Project**  
Ecological Air Quality Assessment  
Copeland Local Plan

**Project Reference**  
51 68

**Client**  
Copeland Borough Council

Contains Ordnance Survey Data  
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**Legend**

 Lake District High Fells SAC

 Discrete Receptor

 Modelled Road Link

**Title**

Figure 2 - A66 Modelling Area

**Project**

Ecological Air Quality Assessment  
Copeland Local Plan

**Project Reference**

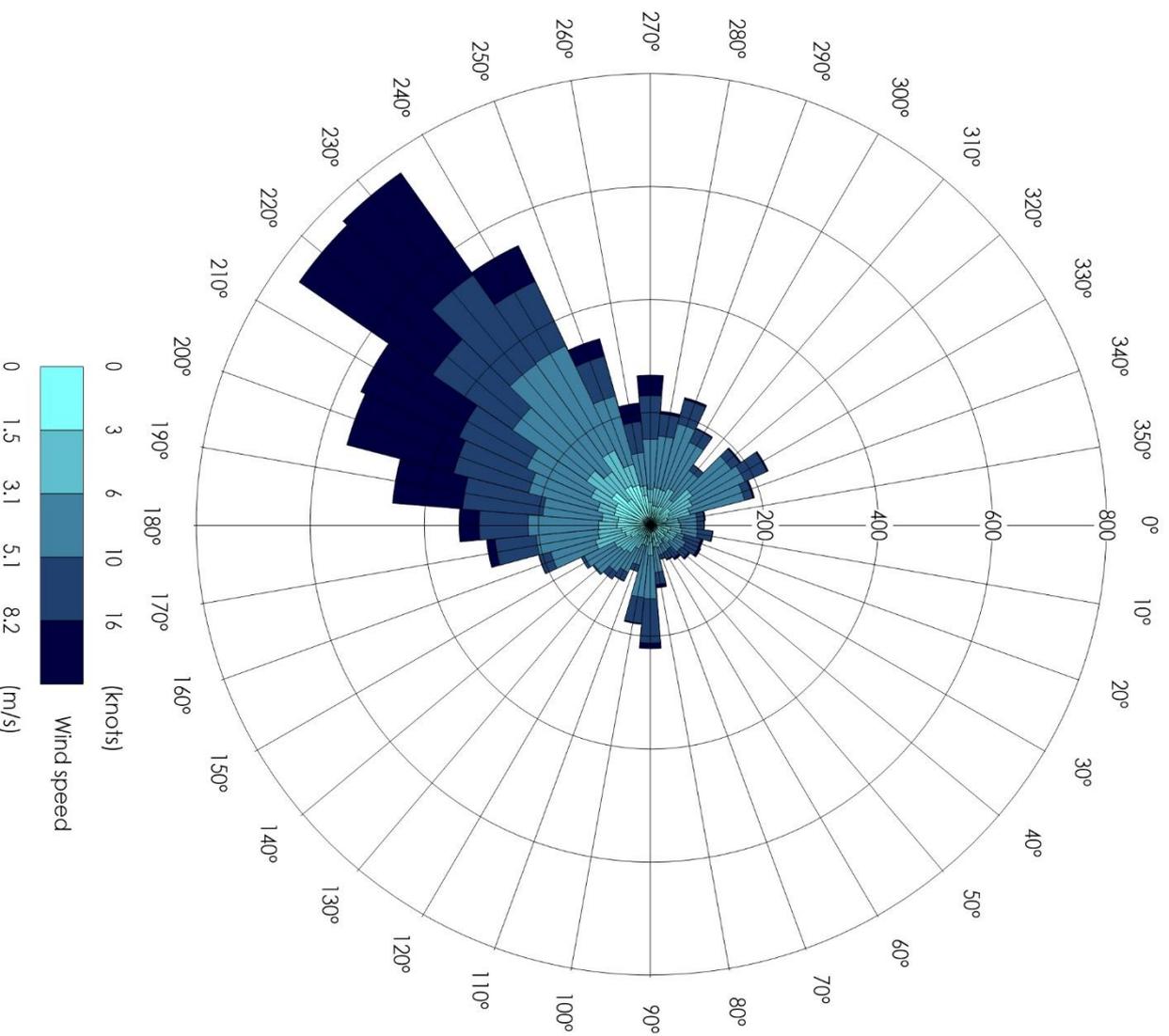
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**Title**

Figure 3 - Wind Rose of 2020 Shrap Meteorological Data

**Project**

Ecological Air Quality Assessment  
Copeland Local Plan

**Project Reference**

5168

**Client**

Copeland Borough Council

