Copeland borough council

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Habitats Regulations Assessment Screening Report

May 2012

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Summary

Copeland has a number of internationally important biodiversity sites that are protected by European legislation. They form part of a Europe wide network of important habitats and species called Natura 2000. When preparing a plan for the area, in this case the LDF, the Council must ensure that the proposals therein will not have a negative effect on the integrity of any of these sites. The Habitats Regulations Assessment is a tool that was introduced by the Conservation (Natural Habitats, etc.) Regulations 1994 to help to make this assessment.This report documents the assessment of the proposals within the pre-submission drafts of the Copeland LDF Core Strategy and Development Management Policies DPDs.

Table 1 – Biodiversity sites of international significance within the Copeland Plan area and within 20km of the plan area boundary

Name of Site	Designation	Within Copeland Plan Area / Within 20km of Copeland
Borrowdale Woodland Complex	SAC	Within 20km of Copeland
Clints Quarry (Moota)	SAC	Within 20km of Copeland
Drigg Coast	SAC	Within Copeland Plan Area
Duddon Mosses	SAC	Within 20km of Copeland
Lake District High Fells	SAC	Within 20km of Copeland
Morecambe Bay	SAC	Within Copeland Plan Area
North Pennine Dales Meadows	SAC	Within 20km of Copeland
River Derwent and Bassenthwaite Lake	SAC	Within 20km of Copeland
River Ehen	SAC	Within Copeland Plan Area
Roudsea Wood and Mosses	SAC	Within 20km of Copeland
Subberthwaite, Blawith & Torver Low Commons	SAC	Within 20km of Copeland
Wast Water	SAC	Within 20km of Copeland
Yewbarrow Woods	SAC	Within 20km of Copeland
Morecambe Bay	SPA	Within 20km of Copeland
Duddon Estuary	SPA	Within Copeland Plan Area
Esthwaite Water	Ramsar Site	Within 20km of Copeland
Duddon Estuary	Ramsar Site	Within Copeland Plan Area
Morecambe Bay	Ramsar Site	Within 20km of Copeland

Summary of the Assessment:

Borrowdale Woodland Complex SAC – The most likely significant negative impact would be from transport related air pollution (a part of the site is quite close to the A591). A further HRA will be needed during the preparation of the Site Allocations DPD and it is suggested that in relation to this site, the assessment should consider whether any development in the plan area will increase the amount of traffic on the section of the A591 nearest the site. Transport modelling will be carried out as part of the preparation of the Site Allocations DPD and this will provide the necessary information. Core Strategy policy is to minimise the need for private travel by concentrating most

new development in the largest settlements where jobs and facilities are within walking distance and where there is access to public transport. Regarding the prevention of introduction of non-native, invasive species, wording has been added to policy DM26 that allows conditions on planning permissions stating that all species used in landscaping schemes must be non-invasive.

Clints Quarry SAC – The important feature on this site is a large population of Great Created Newts. The maintenance of the water table and therefore the breeding ponds is the main requirement for their continued survival here. There are no plans to source water resources from upstream of the site. The site is close to three of West Cumbria's busiest roads i.e. A66, A591 and A595 and an increase in traffic along these roads could increase the acid deposition in the breeding ponds and on the adjacent foraging land (the young of Great Crested Newts are sensitive to acidification of their habitat). It will be important that the HRA Screening Reports that accompany the Site Allocations DPD, and the major infrastructure planning applications, deal with the potential risk of an increase in traffic on these sections of road and a corresponding increase in acid deposition.

Drigg Coast SAC–This is a sand dune environment including some migrating dunes. Major impact considered are:development directly behind the site; changes in the temperature and salinity of the coastal waters;the storage of nuclear waste close to the site boundary; trampling through recreational use; and increased nitrogen deposition. The Core Strategy restricts the majority of development in the plan area to Whitehaven and the three main towns. The nearest settlement that will be subject to some limited housing development is the Local Centre of Seascale. The HRA of the Site Allocations DPD will need to consider those sites in Seascale that are being proposed as allocations and whether they pose a barrier to the migration of the dunes. Policy ENV3F allows the restriction of access to important biodiversity sites if it is felt that visitors are damaging features through trampling or other means. The A595 is the closest main road to the site and could be subject to an increasing amount of traffic (and therefore air pollution leading to nitrogen deposition) if new nuclear development goes ahead. This issue will need to be addressed in the HRA accompanying the planning application for the nuclear new build development and will be highlighted in the Local Impact Report prepared and submitted by Copeland Borough Council. The concern about the storage of nuclear waste at the Drigg waste facility is a matter for Cumbria County Council.Regarding the prevention of non-native, invasive species, wording has been added to policy DM26 that allows conditions on planning permissions stating that all species used in landscaping schemes must be non-invasive.

Duddon Mosses SAC – This site is made up of two different bog habitats and it is important that a high water table is maintained. There are no plans to source drinking water from any part of South Copeland so there should be no impact arising from the Copeland LDF in this respect. Another important aspect of the site is its low nutrient status. It is crucial that the site does not become polluted with untreated sewage or suffers increased nitrogen deposition. United Utilities reported that there are no problems with the capacity of the treatment works at Millom and that the housing growth proposed in the Core Strategy can be accommodated. Nitrogen deposition arises from traffic pollution as well as agriculture, so it will be imperative that the issue of increased traffic on the A roads close to the site (A595, A5092, A5093, A5084, A593) is taken into account in the HRAs accompanying the Site Allocations DPD and the nuclear new build and infrastructure planning applications. Transport modelling forms part of the preparation of Site Allocations DPD and this will provide the data needed to make the assessment. In the meantime, there are policies in the Core Strategy that encourage a greater amount of green infrastructure and sustainable transport options.

Lake District High Fells SAC - This site is in several parts and covers a large area. The main issues are the levels of nitrogen and acid deposition which are currently above the critical loads for all the different types of habitat on this site. Levels of NH_3 are also very close to the critical levels for some of the habitats i.e. those where bryophytes are present. There are a number of moderately busy A roads running between some of the sites (A66, A591 and slightly further away, the A595). Increases in traffic along these roads, arising from proposals in the Site Allocations DPD and in applications submitted by the nuclear industry, will have to be taken into account in the HRAs accompanying them. There are policies in the Core Strategy that encourage green infrastructure and sustainable transport options. It is considered that this document does all that it can at a very strategic level.The topography of the land between the plan area and the different parts of the site would prevent any untreated sewage water from polluting the site. United Utilities abstract water from Ennerdale Water but a high water table is not a condition required to support the integrity of the site. (It does have implications for the River Ehen site – see below). Regarding the prevention of introduction of non-invasive species, policy DM26 allows conditions to be put on planning permission stating that all species used in landscaping schemes must be non-invasive. Trampling is an important issue when considering policies that encourage more people into any given area. ENV3F does allow for the restriction of access to land where that would lead to trampling and disturbance of sensitive habitats and species. This should significantly lessen the risk of damage where the sites are monitored for damage and the policy applied.

Morecambe Bay SAC – This is a large estuarine site and proposed leisure and tourism uses mean that there is potential for increased visitor pressure here. For the part of the site that is in the Copeland plan area, ENV3F allows restriction of access where there is risk of harm through trampling etc. Tidal and wave energy developments could have a significant negative impact but these will be considered to be Nationally Significant Infrastructure Projects and therefore Copeland will not be the deciding authority.The levels of SO_2, NH_3, ozone, acid deposition and NO□ sampled at the site do not cause any concern – they are well within the critical limits. However, there are issues with the levels of nitrogen deposition which are currently above the critical loads for over half the different habitats present (see Appendix 1 for details). Motor vehicles are an anthropogenic source of nitrogen and there are a number of A roads in the vicinity (A595, A593, A590, A5084, A5093, A5092). Increased traffic as a result of any planned developments or site allocations will have to be taken into account in the HRA Screening Reports for the Site Allocations DPD and any Major Infrastructure Planning Applications. A project is currently underway in the Millom area to help to increase the capacity of the WwTW there and therefore prevent untreated water entering the Duddon Estuary part of the site. United Utilities have reported that the works will be able to accommodate the Core Strategy's planned growth for the area.

North Pennine Dales Meadows SAC–This site is made up of a large number of small scattered meadows, only two of which are with 20km of the Copeland plan area boundary. The levels of SO_2, NH_3, ozone, acid deposition and NO□ sampled at these locations do not cause any concern. However, there are issues with the levels of nitrogen deposition, which are currently above the critical loads for at least one of the habitats present (see Appendix 1 for details). One of the anthropogenic sources of nitrogen is motor vehicle emissions. Sandybeck is close to the moderately busy A5086 and Wilson Place Meadow is close to the A593 and A591. The HRA Screening Reports for the Site Allocations DPD and the nuclear industry's planning applications will have to consider whether traffic will increase significantly on these roads as a result of these developments. In the

meantime there are policies in the Core Strategy that encourage a greater amount of green infrastructure and sustainable transport options to mitigate any effect. Due to the terrain between the sites and the plan area it would be highly unlikely that wastewater from Copeland would contaminate the site. Wastewater getting on to the site would not harm it in any case. A drop in the water table is not mentioned a being a risk to the integrity of the sites.

River Derwent and Bassenthwaite LakeSAC - As this is an aquatic environment, there was no data available for air pollutants. The site has a number of fish species that are listed as qualifying features. Acid deposition can have a negative effect on the fish in the early stages in their lives. Motor vehicle emissions are a contributing factor. Therefore, the potential for increased traffic on the A66, A595 and A591 arising from potential developments will have to be considered in the HRA Screening Reports accompanying the Site Allocations DPD and the nuclear and grid planning applications. The topography between the areas where there is concern about the capacity of the treatment works i.e. Whitehaven and Cleator Moor, and the site would not allow sewage contamination to occur. Drinking water for Copeland is sourced from Ennerdale Water and a number of new boreholes that have been recently drilled south of Egremont. There are no plans to take water from the SAC in the future. Invasive species are seen as a potential problem. Policy DM26 states that care should be taken that landscaping schemes do not include invasive, non-native species. Consideration is given to an increase in tourism in the borough as this may encourage more tourists to a part of the borough where they could disturb otters and engage in angling activities. Policy ENV3F does allow for the restriction of access to land where that would lead to disturbance of sensitive habitats and species.

River Ehen SAC - As this is an aquatic environment there was no critical load/level data available for air pollutants for this habitat. The site hosts Freshwater Pearl Mussels and Atlantic Salmon. Salmon young are sensitive to acid deposition. Acid deposition is known to arise from road traffic amongst other things. The A5086 runs very close to the SAC at its western end. The potential for an increase in traffic will have to be taken into account in the HRA Screening Reports for the Site Allocations DPD and planning applications for any nuclear or other major development. Freshwater Pearl Mussels are sensitive to eutrophication arising from untreated sewage and agricultural runoff. Cleator Moor Treatment Works is currently operating at restricted capacity and will not return to full capacity until the maintenance works are completed there in 2013 (after which time it will be able to accommodate the planned growth in the area it serves. Ennerdale Bridge Treatment Works is not able to accommodate the planned growth at Ennerdale Bridge and Kirkland. (United Utilities has asked that developers consult them prior to submitting a planning application regarding the particular point of connection to the sewer network. There may be issues that make the development less financially viable). Core Strategy policy ST4Astates that development that demands additional infrastructure 'will be permitted if the relevant infrastructure is either in place to ensure that it will be provided when and where required.'Ennerdale Water (from which the River Ehen flows) is the main source of drinking water in Copeland. It will be important that over-abstraction does not occur here. United Utilities has drilled boreholes just south of Egremont to help meet the growing demand for drinking water. Teaching customers to use water more efficiently will also help to reduce the demand in future. Regarding the prevention of introduction of non-invasive species –policy DM26 states that all species used in landscaping schemes must use plants that are non-invasive.Trampling is an important issue when considering policies that encourage more people into any given area. ENV3F does, however, allow for the restriction ofaccess

to land where that would lead to trampling and disturbance of sensitive habitats and species. This should significantly lessen the risk of damage. Development causing an obstruction to the flow of water in the River Ehen would be considered to be a direct threat to the integrity of the site and policy DM25 would be used to refuse permission where the benefits of the development did not clearly outweigh the risk of damage to this very important site.

Roudsea Wood and Mosses SAC - The site is a mix of bog and woodland habitat. The main issues for the site are the prevention of increased air pollution, eutrophication and erosion through trampling. The levels of SO_2 and NO□ sampled at the site are well within the critical limits. However, there are issues with the levels of nitrogen deposition and, with particular regards to the bog habitats, the readings for acid deposition are significantly above the critical load. The levels of ammonia are also very close to the critical levels for the bog habitats. The A590 runs close to the north of the site. The potential for an increase in traffic on this stretch of road and the other nearby A roads will have to be taken into account in the HRA Screening Reports for the Site Allocations DPD and planning applications for any nuclear or other major development. United Utilities reports that there will be no problem accommodating the planned growth in the South Copeland locality i.e. Millom and Haverigg so eutrophication from raw sewage is unlikely to be an issue. The topography between the plan area and the site would make this very difficult in any case.

Subberthwaite, Blawith and Torver Low Commons SAC – This site has qualified for its SAC status because of the high quality of the bog habitats within the site boundary. Factors that could impact on the integrity of the site are: erosion from trampling, atmospheric pollution, eutrophication and lowering of the water table. The Core Strategy does have a policy that can limit access to sites that are at risk from trampling but the SAC falls outside the plan area and will depend on the Lake District National Park LDF for this protection. With regards to air pollution, the levels of SO_2, ozone and NO□ sampled at are well within the critical limits. However, there are issues with the levels of nitrogen and acid deposition that are both significantly above the critical loads for this type of habitat (see Appendix 1 for details). The levels of ammonia are also very close to the critical levels for the bog habitats. The main roads in the area are the A595, A590, A593, A5092 and A5084. The potential for an increase in traffic will have to be taken into account in the HRA Screening Reports for the Site Allocations DPD and planning applications for any nuclear or other major development.The site is unlikely to be affected by eutrophication arising from the plan area as United Utilities have reported that the Millom Wastewater Treatment Works will be able to accommodate the planned growth in the area. There are no plans to abstract drinking water from South Copeland sources so this would not be the cause of any drop in the water table in this area.

Wast Water SAC–This site is valuable as a clear water lake of low nutrient status. As this is an aquatic environment there is no critical load/level data available for air pollutants for this habitat. Current readings for several pollutants are available in Appendix 1. Arctic Charr(salmonid fish) are sensitive to acidification of the water and this arises as a result of acid and nitrogen deposition, both of which are constituents of vehicle emissions. The main roads in the area are the A595 and A591. Both are quite a distance from the site but air pollutants can travel significant distances. The majority of nitrogen and acid deposition in Cumbria occurs as the result of air pollutants generated in the dense urban areas to the south of the region. However, more locally, the potential for an increase in traffic will have to be taken into account in the HRA Screening Reports for the Site Allocations DPD and planning applications for any nuclear or other major development. In the

meantime,there are policies in the Core Strategy that encourage a greater amount of green infrastructure and sustainable transport options. With regards to the damage that could be caused by wastewater, the topography between the site and the plan area would not allow the site to become contaminated with raw sewage generated in the west. The nuclear generating plant at Sellafield used water abstracted from the site for cooling purposes. It is not clear whether this will be the case with regards to the Moorside nuclear new build project. The HRA that accompanies the planning application for this proposal will need to address this issue.

Yewbarrow Woods SAC–As the name suggests, this is a woodland habitat with a mix of Yew, Juniper and Oak. The main area of concern is the amount of grazing that allowed on the site and the introduction of invasive, non-native species. Planning cannot control grazing activities but can put controls on the type of planting allowed in landscaping schemes in the plan area. Policy DM26 in the Development Management Policies document states that all species used in landscaping schemes must use plants that are non-invasive.

Duddon Estuary SPA and Ramsar Site–This estuarine site is an important bird habitat and also hosts Natterjack Toads. Increased air pollution is not so critical for this designation as the qualifying features are bird species and they are less sensitive to most air pollutants. The exceptions are acid deposition and some organic pesticides (that are no longer in use but persist in the environment e.g. DDT). The acid deposition rate for Morecambe Bay (another SPA close to the site) is 1.76 keq/ha/year. Natterjack toads, a qualifying feature for Ramsar designation, are affected by acidification during the larval stage. One of the many anthropogenic sources of acidification is vehicle emissions. There are a number of A roads near to the site - A590, A595, A5093, A5092 and A593. The potential for an increase in traffic will have to be taken into account in the HRA Screening Reports for the Site Allocations DPD and planning applications for any nuclear or other major development. Regarding pollution from wastewater, United Utilities state that they expect that the Millom Treatment Works will be able to accommodate the planned growth in South Copeland. Works are currently being carried out to improve the capacity of this treatment works (a new pipe is being installed to increase flow into the treatment works) and it is intended that this will improve the quality of the treated water flowing into the Duddon Estuary.The introduction of invasive non-native species does pose a threat. Policy DM26 in the Development Management Policies document states that all species used in landscaping schemes must use plants that are non-invasive. Trampling and disturbance to species is also a threat and is dealt with in Core Strategy policy ENV3F, restricting access to and usage of land where that would lead to trampling and disturbance of sensitive habitats and species.

Morecambe Bay SPA and Ramsar Site–This is a very large estuarine site that hosts internationally significant populations of migratory birds. Air pollution is not so critical for this designation as the qualifying features are the various bird species and they are less sensitive to most air pollutants. The exceptions are acid deposition and some organic pesticides (that are no longer in use but persist in the environment e.g. DDT). Great Crested Newts are also present and they are sensitive to acidification. As this is an aquatic environment there are no critical loads and levels data for the various air pollutants. Current levels/loads readings are available in Appendix 1. One of the many anthropogenic sources of acidification is vehicle emissions. There are a number of A roads near to the site. These are A590, A595, A5093, A5092 and A593. The potential for an increase in traffic will have to be taken into account in the HRA Screening Reports for the Site Allocations DPD and

planning applications for any nuclear or other major development. In the meantime, there are policies in the Core Strategy that encourage a greater amount of green infrastructure and sustainable transport options. Concerns have been expressed about untreated wastewater flowing into the bay. United Utilities has reported that the Wastewater Treatment Plant at Millom will be able to accommodate the planned growth in South Copeland. Any untreated water originating within the plan area would flow into the Duddon Estuary and not Morecambe Bay in any case. The introduction of invasive non-native species does pose a threat. Policy DM26 in the Development Management Policies document states that all species used in landscaping schemes must use plants that are non-invasive.Trampling is an important issue when considering policies that encourage more people into any given area. This is dealt with in Core Strategy policy ENV3F, which allows for the restriction of access to and usage of land where that would lead to trampling and disturbance of sensitive habitats and species.

Esthwaite Water Ramsar Site - This is an aquatic site that hosts the only population of the plant, Slender naiad, in England and Wales. Atmospheric nitrogen can cause eutrophication and any increase in nitrogen deposition would exacerbate the existing problem. Slender naiad is sensitive to eutrophication and acidification of the lake water so there will be a need to ensure than minimal nitrogen and acid deposition arises from the plan area. Atmospheric acid and nitrogen are constituents of vehicle emissions. The main roads in the area are the A591, A590, A593 and A592. The potential for an increase in traffic on these roads will have to be taken into account in the HRA Screening Reports for the Site Allocations DPD and planning applications for any nuclear or other major development. Policies in the Core Strategy encourage a greater amount of green infrastructure and sustainable transport options.The wastewater treatment works in Millom is said to be able to accommodate the growth anticipated in the Core Strategy. In addition, contamination with raw sewage from the plan is unlikely to occur due to the topography between the plan are and the site.

Conclusion

This screening report does not identify any risks to the integrity of Natura 2000 or Ramsar sites. There may be concerns about the particular location of specific developments and these will be dealt with at a later stage of LDF preparation i.e. during the preparation of the Site Allocations DPD. These issues are mainly around an increase in traffic emissions and specific stretches of road have been identified as those that will be subject to modelling when the information on specific housing sites and their capacities becomes available.

The following pieces of text have been added to the Core Strategy as a result of the findings of this Screening Report and on the advice of Natural England:

Supporting text for Policy ST2 – Spatial Development Strategy

Where sites are to be allocated for housing, each site will be subject to modelling in terms of the amount of additional traffic and air pollution generated in order that the Council satisfy the requirements of Part 6 of the Conservation of Habitats and Species Regulations 2010. This modelling will be carried out during the preparation of the Site Allocations DPD.

Supporting text for policy ST4 – Providing Infrastructure

This applies principally to utilities where, for example, a problem in the supply of water or treatment of waste water particularly, could have detrimental impacts on European biodiversity sites both within Copeland and beyond the borough boundary.

Supporting text for Policy ER1 – Planning for the Nuclear Sector

The European Site most likely to be affected by the operation of a new nuclear energy generating is the nearby Drigg Coast Special Area for Conservation (SAC). This site may be sensitive to changes in water temperature and salinity, the result of using seawater for cooling purposes. It will be very important that these potential impacts are considered fully in the Habitats Regulations Assessment that accompanies the planning application for the nuclear energy proposal.

The following text has been added to the Development Management Policies DPD as a result of the findings of this Screening Report and on the advice of Natural England:

Supporting text for Policy DM25 – Protecting Nature Conservation Sites, Habitats and Protected Species

Any development that would lead to an adverse impact on the integrity of a Natura 2000 or Ramsar site, either alone or in combination with other plans or projects would not be in conformity with Core Strategy. If it cannot be ascertained that there would be no adverse effect the project will have to be refused or pass the statutory tests of “no alternatives” *and* the“imperative reasons of overriding public interest” set out in Regulation 62 of the Conservation of Habitats and Species Regulations 2010. If the plan or proposal does satisfy *both* these tests then any necessary mitigation and compensation measures will have to be secured in accordance with Regulation 66.

Introduction

There are 3 different designations for sites of international biodiversity importance. These are Special Areas for Conservation (SACs), Special Protection Areas (SPAs) and Ramsar Sites. SACs are described by Natural England as 'areas which have been given special protection under the European Union's Habitats Directive'. Article 3 of the Habitats Directive requires the establishment of a European network of important high-quality conservation sites that will make a significant contribution to conserving the 189 habitat types and 788 species identified in Annexes I and II of the Directive (as amended). The listed habitat types and species are those considered to be most in need of conservation at a European level (excluding birds). According to the JNCC website, of the Annex I habitat types, 78 are believed to occur in the UK. Of the Annex II species, 43 are native to, and normally resident in, the UK.

SPAs are areas which have been identified as being of international importance for the breeding, feeding, wintering or the migration of rare and vulnerable species of birds found within European Union countries. They are European designated sites, classified under the 'Birds Directive 1979'.

Together the SACs and SPAs make up a European network of sites referred to as Natura 2000. Natura 2000 is the centrepiece of EU nature & biodiversity policy. The aim of the network is to assure the long-term survival of Europe's most valuable and threatened species and habitats.

Ramsar Sites are not part of the Natura 2000 network but are treated in a similar way to SACs and SPAs in terms of their importance and the protection they provide. They are wetlands of international importance, designated under the Ramsar Convention (an international agreement signed in Ramsar, Iran, in 1971). The initial emphasis was on selecting sites of importance to water birds within the UK, and consequently many Ramsar sites are also Special Protection Areas (SPAs).

Table 1 lists the international sites that are present in the Copeland plan are and those that are within 20km of the Copeland boundary.

Table 1

Name of Site	Designation	Within Copeland Plan Area / Within 20km of Copeland
Borrowdale Woodland Complex	SAC	Within 20km of Copeland
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River Ehen	SAC	Within Copeland Plan Area
Roudsea Wood and Mosses	SAC	Within 20km of Copeland
Subberthwaite, Blawith & Torver Low Commons	SAC	Within 20km of Copeland
Wast Water	SAC	Within 20km of Copeland
Yewbarrow Woods	SAC	Within 20km of Copeland
Morecambe Bay	SPA	Within 20km of Copeland
Duddon Estuary	SPA	Within Copeland Plan Area

Esthwaite Water	Ramsar Site	Within 20km of Copeland
Duddon Estuary	Ramsar Site	Within Copeland Plan Area
Morecambe Bay	Ramsar Site	Within 20km of Copeland

Maps showing the location of these sites are included in the document.

The Legislation

The Habitats Directive (Council Directive 92/43/EEC) was adopted in 1992 and applies to the UK and to its Overseas Territory of Gibraltar. The main aim of the Habitats Directive is to promote the maintenance of biodiversity by requiring Member States to take measures to maintain or restore natural habitats and wild species listed on the Annexes to the Directive at a favourable conservation status, introducing robust protection for those habitats and species of European importance. The Conservation (Natural Habitats, etc.) Regulations 1994 transposed the Habitats Directive into national law. The Regulations came into force on 30 October 1994, and have been subsequently amended several times. They apply to land and to territorial waters out to 12 nautical miles from the coast. The Conservation of Habitats and Species Regulations 2010 consolidate all the various amendments made to the 1994 Regulations in respect of England and Wales.

The Birds Directive (2009/147/EEC) provides a framework for the conservation and management of, and human interactions with, wild birds in Europe. It sets broad objectives for a wide range of activities, although the precise legal mechanisms for their achievement are at the discretion of each Member State (in the UK delivery is via several different statutes). The Directive applies to the UK and to its overseas territory of Gibraltar. The main aim of the Directive is the maintenance of the populations of all wild bird species across their natural range (Article 2). In the UK, the provisions of the Birds Directive are implemented through the Wildlife & Countryside Act 1981 (as amended), the Conservation (Natural Habitats, &c.) Regulations 2010 (as amended); the Offshore Marine Conservation (Natural Habitats &c.) Regulations 2007 as well as other legislation related to the uses of land and sea.

Articles 6 (3) and 6 (4) of the Habitats Directive require a HRA to be undertaken on proposed plans or projects which are not necessary for the management of the site but which are likely to have a significant effect on one or more Natura 2000 sites either individually, or in combination with other plans and projects.Determining whether an effect is 'significant' is undertaken in relation to the designated interest features and conservation objectives of the Natura 2000 sites. If an impact on any conservation objective is assessed as being adverse then it should be treated as significant. Where information is limited the precautionary principle applies and significant effects should be assumed until evidence exists to the contrary.

The Habitats Regulations Assessment

A Habitats Regulations Assessment (HRA) is the assessment of the impacts of implementing a plan or policy on a Natura 2000 Site. Its purpose is to consider the impacts of a land use plan against the conservation objectives of a site and to ascertain whether it would adversely affect the *integrity* of the site either on its own or in combination with the land use plans of other nearby planning authorities. Site integrity is defined as"the site's coherence, ecological structure and function across its whole area that enables it to sustain the habitat, complex of habitats and/or the levels of

populations of species for which it was classified" Where significant negative effects are identified, alternative options should be examined to avoid any potential damaging effects.

Carrying out a HRA is not only a statutory duty but is also beneficial to the policy process as a means of identifying and addressing early on in the process any adverse effects that the draft policies and proposals may have. Unlike the Sustainability Appraisal (SA) process, the HRA requires that decisions on the content of the Plan be based on its findings. Therefore, it goes beyond the material consideration of SA to be weighed in decisions on planning policies and proposals.

The HRA process incorporates the following stages:

Stage 1 – Screening

This identifies the likely impacts upon a Natura 2000 site of a project or plan, either alone or in combination with other projects or plans, and considers whether these impacts are likely to be significant. 'In combination' is taken to refer to *the sum of influences acting on sites from all plans and projects in the context of prevailing environmental conditions*.

Stage 2 - Appropriate Assessment (AA)

Where significant impacts are likely this stage determines in more detail the impact on the integrity of the site of the project or plan, 'in combination' with other projects or plans, with respect to the site's structure, function and conservation objectives. The Assessment should be carried out by a competent body. Where there are adverse impacts, assess the potential mitigation of those impacts. Where there aren't, then the project or plan can proceed as it is. This stage only needs to take place where likely significant impacts are identified in the screening phase.

Stage 3 **-** *Assessment of alternative solutions*

Where significant negative effects are identified at the AA stage alternative options should be examined to avoid any potential damaging effects to the integrity of the site.

Stage 4 **-** *Assessment where adverse impacts remain*

This is an assessment of compensatory measures where, if the development is assessed to be for Imperative Reasons of Overriding Public Interest (IROPI), it is deemed that the project or plan should proceed. In this case the Secretary of State for Communities and Local Government should be notified and they will inform the European Commission about the compensatory measures adopted.

This document forms Stage 1 of the Habitats Regulation Assessment (HRA) process and contributes to the fulfilment of the Council's statutory duty as regards the Birds Directive and the Habitats Directive. It is a screening report concerned with reaching an opinion as to whether the Plan needs to go forward for further, more detailed Assessment of impacts.

The Purpose and Objectives of the Copland LDF Core Strategy

The Copeland Local Development Framework will replace the Adopted Local Plan 2001-2016 and will run up to the end of the plan period in 2027. The Core Strategy is the first and most strategic of the documents that will be produced by the Council during the preparation of the LDF. This Assessment is based upon the Submission Drafts of both the Core Strategy DPD and Development Management Policies DPD, dated January 2012.

The purpose of the Copland LDF Core Strategy can is summed up very concisely in the LDF Vision:

'By 2027, Copeland will be an economically and socially sustainable, well-connected and environmentally responsible place of choice.

Economically sustainable: a place that boasts a highly-skilled workforce and a varied and sustainable economic base that builds on opportunities, including those presented by the low-carbon and renewable energy sectors, knowledge-based industries and tourist attractions;

Socially sustainable: a place that meets the needs of the whole community, where geography is not a barrier to achievement, and where housing quality and availability, social infrastructure, health and well-being, equality and social mobility are improved.

Well-connected: a place that has enhanced transport networks providing improved access to sustainable modes of transport, both within and between its key settlements and out towards neighbouring areas;

Environmentally responsible: a place that adapts to climate change and minimises its carbon footprint, makes the most of its unique coastal location and abundant natural resources whilst protecting and enhancing its green infrastructure, landscapes, heritage and biodiversity.'

This Vision was the basis for the 19 objectives of the Core Strategy listed here

1. Support future renewable and low carbon energy generating capacity in Copeland in line with Britain's Energy Coast: A Masterplan for West Cumbria.

2. Promote the diversification of the borough's rural and urban economic base to enable a prosperous mixed economy, including creative and knowledge based industries, specialist engineering and the energy sector, building on Copeland's nuclear skills base, and tourism, exploiting heritage, the potential of the unspoiled coast and the quiet of the western lakes.

3. Provide a wide range of modern, high-quality employment sites and premises and promote the creation of a high-end knowledge based employment cluster at West Lakes Science and Technology Park.

4. Promote the vitality and viability of town and local centres, taking advantage of the built heritage that exists in Copeland's towns and villages (notably Whitehaven and Egremont) to enhance the shopping experience for residents and visitors.

5. Support the Nuclear Skills Academy, higher education at Westlakes, and the borough's other educational establishments in improving educational attainment and skills to meet business needs.

6. Focus major development in Whitehaven, and encourage complementary and additional development in Cleator Moor, Millom and Egremont and local centres where opportunities exist, in line with strategic infrastructure provision.

7. Enable a 'balanced housing market' ensuring that all housing is of good quality, affordable, responds to differing needs from deprived industrial communities to the more prosperous rural areas, and is provided in places where people want to live.

8. Ensure that settlements are sustainable and meet the range of needs of their communities by, as far as possible, protecting the facilities that are already present and supporting appropriate new provision, especially in Millom which is the main settlement serving the more remote locality of South Copeland .

9. Ensure that all new development meets high standards in terms of energy efficiency, provision for biodiversity, safety, security and accessibility, relates well to existing development, enhances the public realm and develops quality places reflecting their distinctive west and south west Cumbrian character.

10. Support the increased sustainability of communities in rural environments varying from former mining settlements in the north and south, to the villages of mid Copeland.

11. Reduce the need to travel by supporting improved telephone and rural broadband access.

12. Improve access to employment, services, education/training facilities and the leisure opportunities of the coast and Lakeland fringe, by foot, cycle and public transport.

13. Develop and maintain safe, efficient, high quality, modern and integrated transport networks with good internal links and connections to key routes, including the West Coast Main Line via both Carlisle and Barrow, and the M6 via both the A66 and A590.

14. Adapt to the impacts of climate change by minimising development in flood risk areas and by improving the extent of tree cover and connectivity of wildlife corridors.

15. Promote recycling and waste minimisation.

16. Protect and enhance all landscapes in the borough, as well as the St Bees Heritage Coast site.

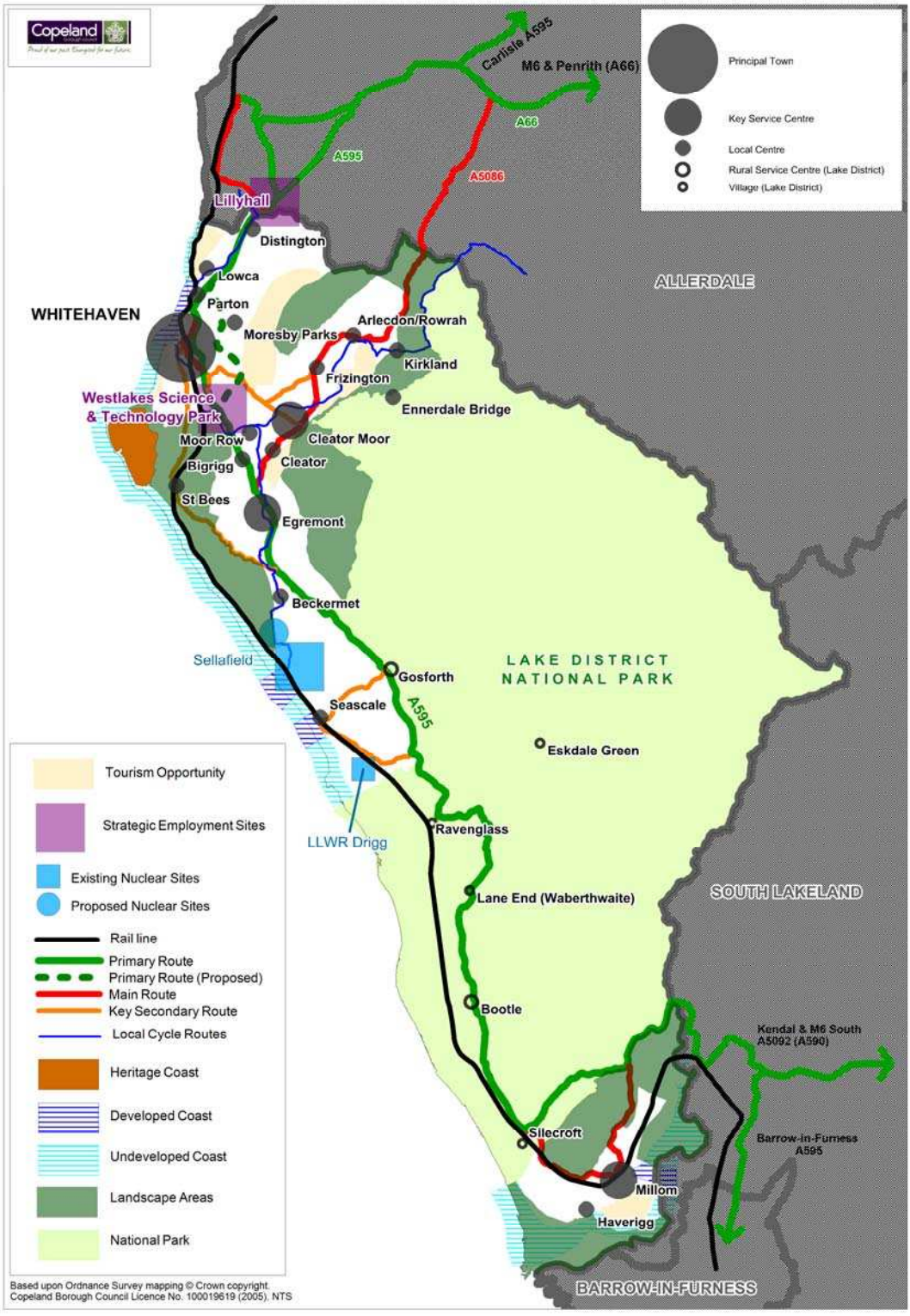
17. Protect and enhance the many places and buildings of historical, cultural and archaeological importance and their settings.

18. Protect and enhance the rich biodiversity both within and outside of the borough's many nationally and internationally designated sites, ensuring that habitats are extended, connected by effective wildlife corridors and that lost habitats are restored.

19. Safeguard and where possible enhance the natural resources in the borough whilst addressing the impacts of mining, iron working, nuclear energy and other former land uses.

The majority of the LDF land allocations will be made in the Site Allocations Development Plan Document which will be the subject of a later HRA. However, Figure 1 shows the broad locations of some of the major development that is expected to happen in the plan area during the period up to 2027.

Fig. 1 - Core Strategy Key Diagram


Copeland
Carlisle A595
M6 & Penrith (A66)
A66
A595
A5086
Lillyhall
Distington
Lowca
Parton
WHITEHAVEN
Moresby Parks
Arlecdon/Rowrah
Kirkland
Frizington
Ennerdale Bridge
Westlakes Science & Technology Park
Moor Row
Cleator Moor
Cleator
Bigrigg
St Bees
Egremont
Beckermet
Sellafield
Gosforth
Seascale
A595
LAKE DISTRICT NATIONAL PARK
ALLERDALE
Eskdale Green
Ravenglass
LLWR Drigg
Lane End (Waberthwaite)
SOUTH LAKELAND
Bootle
Kendal & M6 South A5092 (A590)
Silecroft
Barrow-in-Furness A595
Millom
Haverigg
BARROW-IN-FURNESS
Principal Town
Key Service Centre
Local Centre
Rural Service Centre (Lake District)
Village (Lake District)
Tourism Opportunity
Strategic Employment Sites
Existing Nuclear Sites
Proposed Nuclear Sites
Rail line
Primary Route
Primary Route (Proposed)
Main Route
Key Secondary Route
Local Cycle Routes
Heritage Coast
Developed Coast
Undeveloped Coast
Landscape Areas
National Park
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Methodology

The approach to Stage 1 was to:

1. Make a list of the Natura 2000 sites that are within the plan area and within 20km of the Copeland plan area boundary (see table 1);
2. Collate information about the sites, including the reasons for their designation and their vulnerabilities and pressures;
3. Identify any potential significant impacts, on each of the sites, arising from the policies in the Core Strategy and Development Management Policies documents.
4. Identify if there are likely to be any significant impacts if the policies are taken in combination with the policies in the documents of other neighbouring authorites and planning bodies.

In this document, each internationally designated site is considered in turn, for its vulnerability to negative impacts potentially arising from policies within the Core Strategy and Development Management Policies documents. In addition to this, consideration is given to whether other policies within the documents go any way to mitigating or eliminating the risk to these sites. An assessment is then made as to whether any significant harm is likely to occur. The effects of plans and policies put forward by other authorities are also considered for the 'in combination' part of the assessment.

The Evidence Base

- Reasons for designating the site i.e. features of interest **-** data from Natura 2000 Data Forms – http://jncc.defra.gov.uk/ProtectedSites

  Ramsar Information Sheets **-** http://ramsar.wetlands.org/Database/Searchforsites/tabid/765/Default.aspx)

- Conservation objectives

  (Data from Natura 2000 Data Formsand Ramsar Information Sheets)

- Key environmental conditions and processes that support site integrity

  (Data from Annex I Habitat Accounts and Annex II Species Accounts – accessed through Natural England's websites)

- Critical and current loads/levels for common air pollutants (provided by the Air Pollution Information System – accessed through their website: www.apis.ac.uk)

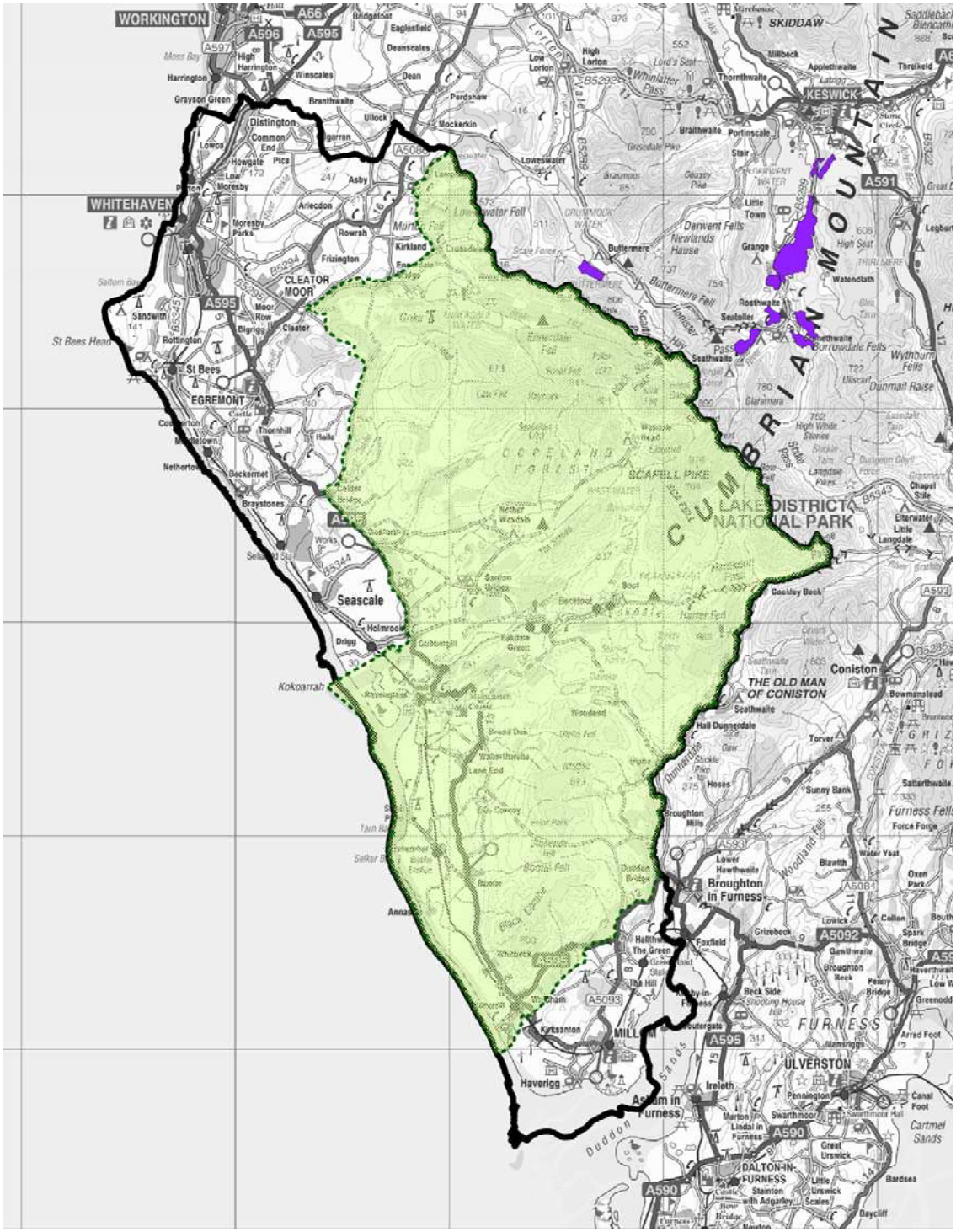
- Heavy metals deposition monitoring data collected at Cockley Beck in the Lake District – available through the DEFRA website **-** http://pollutantdeposition.defra.gov.uk/network_results&siteID=HM8&network=Heavy%20Metals

- Present and future capacity of Wastewater Treatment Works – information provided by United Utilities

- Present and future water resource supply/demand – United Utilities' Water Resource Management Plan

- Traffic counts for major roads near to designated sites – information supplied by Cumbria Highways.

Borrowdale Woodland Complex SAC



Name	**Borrowdale Woodland Complex**
Designation	SAC
Area (ha)	667.83
Qualifying features	•Western acidic oak woodland •Plants in crevices on acid rocks •Bog woodland
SSSIs within the	Lodore-Troutdale Woods SSSI

site.	Seatoller Wood, Sourmilk Gill and Seathwaite Graphite Mine SSSI Stonethwaite Woods SSSI Johnny Wood SSSI Scales Wood SSSI Great Wood SSSI
Comments on Nature Conservation Importance and vulnerabilities	Borrowdale has the most extensive block of western old sessile oak woods in northern England. The woods are especially rich in bryophytes and lichens and rare higher plants. In recent decades, there has been very little natural regeneration of native woodland tree species to ensure the long-term survival of the woodlands, due to grazing pressures from domestic livestock. However, very low levels of grazing are important to maintain the rich and diverse bryophyte flora. This issue should be addressed through the Environmentally Sensitive Area, Woodland Grant Scheme and agreement of Site Management Statements.
Key Environmental Conditions to Support Site Integrity	Conditions ***not*** within Copeland's control: • High water table and maintenance of suitable hydrology • Base-poor soils • Control of grazing Conditions within Copeland's control • Minimal air pollution – bryophytes and lichens are sensitive (particularly to Sulphur Dioxide that destroys chlorophyll in the algal part of the lichen and therefore prevents photosynthesis). • Control of invasive non-native species and any disease outbreaks
Air Quality Issues	The levels of NH_3, SO_2, ozone and NO sampled at the site do not cause any concern (they are well within the critical limits – see Appendix 1). However, there are issues with the levels of nitrogen and acid deposition which are currently above the critical loads for the three different types of habitat on this site. (The atmospheric nitrogen and sulphur that cause acid rain can travel for large distances before being deposited in areas of high rain fall i.e. the source of these pollutants is likely to be urban areas to the south of Cumbria.) Major roads close to the site – A591 is close to the northernmost part of the site. This section of the road runs from Keswick to Windermere and there is no reason to suspect that traffic along this road will increase as a result of the policies in the LDF. (Most traffic coming into the borough from the M6 will use the A66.)
Water Resource and Wastewater Treatment Issues	*Wastewater*: There are issues with the Wastewater Treatment Works (WwTW) capacity at Whitehaven and Cleator Moor. However, due to the topography between these areas and the Borrowdale SAC, it is very unlikely that any wastewater would reach this site in a flooding incident. See map on page 12. *Water Resources*: This site will be unaffected by any change in drinking water sourcing in the plan area.
Possible Impacts Arising from Plan	The flow of water through the site is towards the borough and not away from it so therefore any increase in water pollution arising from development in the Copeland Plan area will not affect this site. Significant negative impacts: - The site lies outside of the plan area and to the east of the developed part of the borough and therefore, with the prevailing westerly wind any increase in traffic could lead to an increase in air pollution moving towards the site. - Careless planting schemes could lead to invasive and non-native plant species being introduced to the landscape and these could creep towards

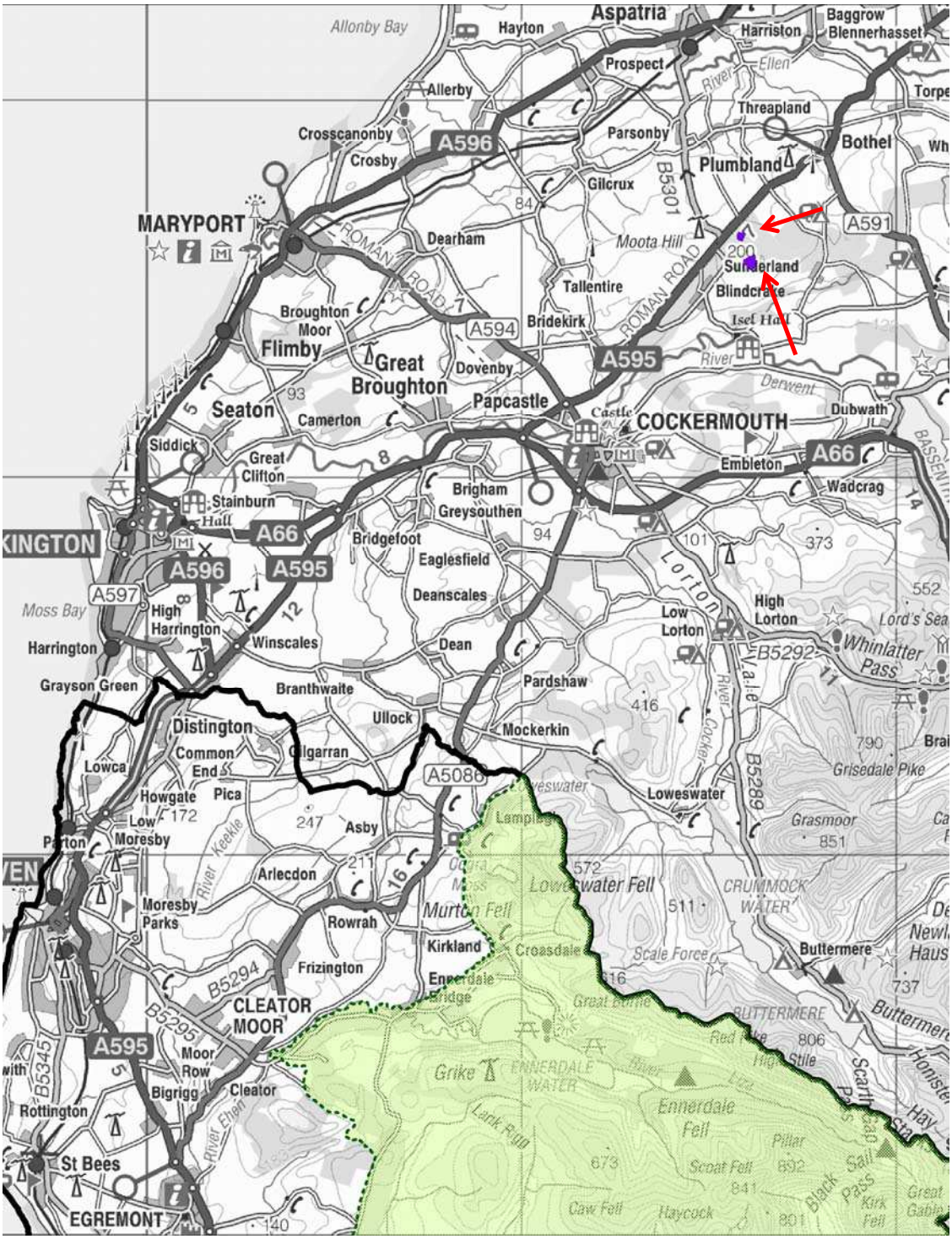
	the site over time.
Source *Pathway(s)***Impact**	Increased amount of development in the plan area leading to more energy use and vehicular traffic. *Pollution in air travelling on the wind to the site* **Negative impact on bryophytes and lichens** Increased amount of development in the plan area some of which will have planting schemes *Creeping of non-native species across land towards the sensitive site.* **Competition with sensitive species leading to decline or extinction on the site.**
Policies that could potentially have a negative impact	Air quality is the main issue as regards the impact of the LDF – Policies that could have a negative impact on air quality are: **ST1** – Support for energy, economic and housing growth as well as community facilities and leisure uses. **ST2** – Increased amount of development **ST3** – Support for new nuclear development on the site adjacent to Sellafield (i.e. further away from the Drigg coast site) **ER1 –** Construction phase of NNB will generate carbon emissions **ER3 –** Construction of Energy Coast Infrastructure will generate emissions **ER4 –** potential for increased air pollution if land uses include B2 **ER7** – Increased amount of development **ER8** – Providing more car parking in the town centre could encourage more people to drive in rather than use public transport. **ER10** – Expand tourism outside the LDNP. **ER11 -** Supporting new and expanding employment sectors. Supporting the development of commercial units. **SS1 –** Increased amount of housing development **SS2 –** Increased amount of housing development (additional 230-300 dwellings per year) **SS3 -** Increased amount of housing development **T1** – Road improvements that could encourage car use. **ENV2 -** Maximise opportunities along the undeveloped for tourism and outdoor recreation. Support energy generating developments that require a coastal location **DM26 -** Landscaping schemes will have to be submitted with all development proposals.
Policies that eradicate/lessen the risk posed	**ST1 -** Ensure development minimises air pollution, minimise the need to travel **ST4** - Policy will allow LPA to ask for measures to be put in place to protect air quality where this might be compromised in the operation of the development. **ER3** – Ensure that any new energy transmission infrastructure minimises potential impacts on biodiversity. **ER5** – Additional planting around existing industrial estates is likely to have a positive impact on air quality. **ER9 -** Protection of services within smaller centres will limit the amount of car travel to larger centres to access essential services. **SS5** – Protecting and enhancing green infrastructure will improve air quality **T1** – improved public transport network. **T2** – reducing the need to travel through supporting the provision of high quality broadband connections **ENV1** – Planting trees to control flood risk will have a positive impact on air quality **ENV3 -** Protecting and extending woodland habitat will have a positive impact

	on air quality. **ENV5** –– On site mitigation to take place where the positive impacts of the development clearly outweigh the negative impact on the landscape. Encouraging green infrastructure will have a positive impact on air quality. **ENV6 -** The planting of a community forest would positively impact on the air quality in and beyond Copeland. **DM11** – Encouraging developers to achieve high standards of energy efficiency **DM12** – Provision of public green space in residential areas **DM24** – Protection and expansion of habitats i.e. green spaces leading to better air quality. **DM25** –All development proposals must take into account any likely significant effects on the internationally important sites both within the borough and within a 20km radius of the borough boundary as well as those that are hydrologically linked to the development plan area. **DM26** - Landscaping schemes will have to be submitted with all development proposals.
Is There a Risk of a Significant Effect?	New nuclear development and the construction of some energy related infrastructure could have a negative impact on this site. However, the Council will not be the planning authority for nationally significant infrastructure development. An appropriate assessment will have to be carried out at planning application stage with consideration given to the matter in the Local Impact Report. A significant amount of housing development will take place over the plan period but the sites for that development have not been allocated yet. The Council will prepare for a Site Allocations DPD and this document will be accompanied by its own HRA Screening Report. Focussing development around Whitehaven and the three Key Service Centres will reduce the need to travel far to access employment and services and therefore should help to keep traffic related emissions to a minimum. With regards to an increased amount of employment development, the same applies. There are a significant number of policies within the Core Strategy and Development Management Policies DPD that highlight the importance of minimising carbon emissions and increasing the amount and quality of green infrastructure which will help to control air pollution. Regarding the prevention of introduction of non-native, invasive species – wording has been added to policy DM26 that allows conditions on planning permissions that state that all species used in landscaping schemes must use plants that are non-invasive.
Possible Impacts Arising from Other Plans and Projects	**Allerdale LDF Core Strategy Issues and Options** – additional 267-350 dwellings per year (equating to an extra 4000-5250 dwellings over the plan period). Some limited housing development in rural local centres but mainly focused in more sustainable locations i.e. Workington, Maryport, Aspatria, Cockermouth, Wigton etc. **Lake District National Park Core Strategy** – 900 additional dwellings in the period to 2025 (50% in rural service centres, 20% in villages and 30% in clusters and the open countryside). There will be an additional 9.2ha of employment land and it is acknowledged that the Park needs one or more additional nationally significant visitor attractions. **Lake District National Park Site Allocations Preferred Options** – All employment land allocated will be in the Rural Service Centres. Borrowdale Woodland SAC falls into the North West Distinctive Area which will

	accommodate 25% of all development in the LDNP. **Carlisle LDF Core Strategy Issues and Options** – Currently no policy direction offered. Carlisle has been designated as a growth point though so it can be reasonably expected that there will be a significant amount of additional housing and employment development over the plan period. **Eden Adopted Core Strategy** – Focus new build housing in Key and Local Service Centres whilst allowing for meeting essential needs in smaller settlements. The plan takes the RSS housing target of 239 additional dwellings per annum to 2025 (over 3100 units in total). 50ha of employment land will be made available to 2025. **Barrow Port Area Action Plan** – 925 additional dwellings in the Action Plan Area to 2021. Additional leisure facilities including marina and boat servicing area, Waterfront hotel, Water sports centre and very limited amount of retail. Improving access to the operational port from road and sea to support new opportunities to increase the proportion of freight moved by sea. Development of Waterfront Business Park as a major new business and employment location (24.5ha site). **South Lakeland LDF Core Strategy** – 55% of new housing and employment development will be in the Principal Service Centres, 13% in Key Service Centres, 21% in Local Service Centres and 11% in the smaller villages and hamlets. Housing target is 469 additional dwellings per year equating to nearly 6100 to 2025. 21ha of employment development to be accommodated in Kendal to 2025, 12ha to be accommodated in Ulverston and Furness but overall 4 ha of employment land will be allocated per annum between 2010 and 2025 equating to 60ha over the plan period. **Cumbria Local Transport Plan 3** – Support for the upgrading of the A595, A590, A5094 and A66 as well as any improvements needed to support growth in the low carbon energy sector. Increased bus services in rural areas. Improvement to the Cumbria West Coast Railway. Carlisle Northern Development Route will be completed in 2012. **Cumbria Minerals and Waste LDF Core Strategy** – no regional waste facilities to be located in Cumbria. At least one new waste facility will be needed in the south of the county. Proposes a decentralised network of waste facilities with a preference for sites which could accommodate more than one type of facility, for example, a Household Waste Recycling Centre and a Transfer/Bulking Station. This relates well to the Overall Strategy and Core Strategy Policy for minimising "waste miles". **Cumbria Minerals and Waste Site Allocations DPD** – Allocates sites for mineral working and waste facilities. The HRA for this document stated that there were 13 sites in the whole of the county that would require an Appropriate Assessment at project stage but that the policies themselves were unlikely to have negative effects on the integrity of any of the sites. The mitigation measures that are considered likely to be needed are common place and could form the conditions of the planning application.
Is there risk of a significant effect in combination?	Possibly – all of the above are planning for an increased amount of development which will lead to a greater amount of dispersed air pollution. However, the levels of some air pollutants are well within the critical loads/limits (see Appendix 1) and the level of development described above could not be expected to treble and quadruple the amount of air pollution. A separate HRA Screening Report will be produced during the preparation of the Site Allocations DPD that will take into account increases in traffic along the

	main roads in West Cumbria and beyond. (This modelling cannot be done until the allocated sites and their capacities are known).

Clints Quarry SAC

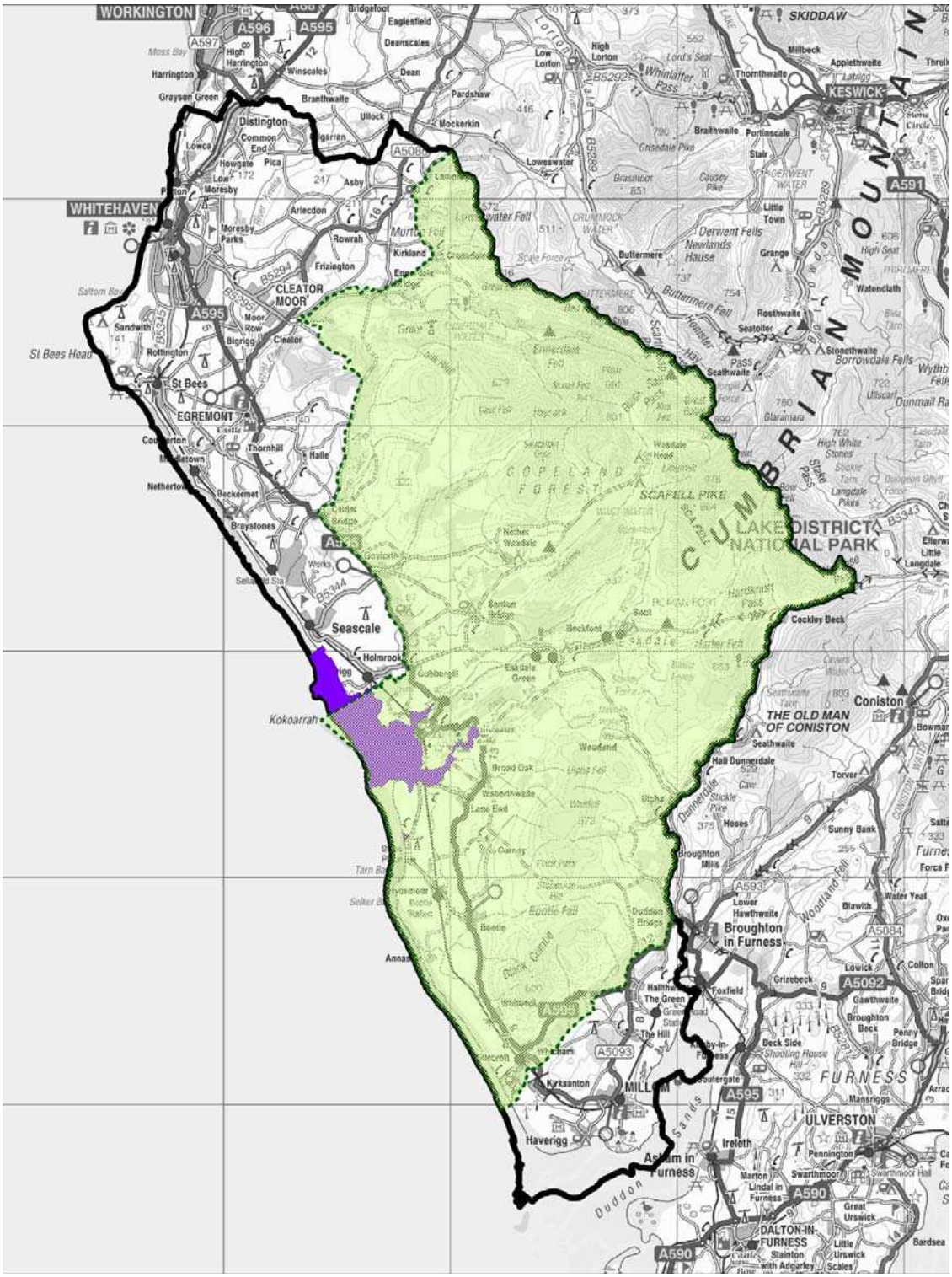


Name	Clints Quarry
Designation	SAC
Area (ha)	12.03
Qualifying features	Great Crested Newt
SSSIs within the Site	Clints Quarry (Moota)

Comments on Nature Conservation Importance and vulnerabilities	Contains several pools that support a large great crested newt population that has shown evidence of recruitment in recent years The great crested newt population has developed since quarrying ceased in the 1980s. The site has been relatively undisturbed since. Water levels in the ponds are largely dependent on rainfall which has been low in recent years.
Key Environmental Conditions to Support Site Integrity	Conditions ***not*** within Copeland's control: • Suitable foraging and refuge habitat within 500m of the pond • 75% ponds deep enough to retain water throughout February to mid-August at least one year in every three • No barriers to movement between ponds • Controlled shading of ponds by trees • Absence of fish in at least 50% ponds Conditions within Copeland's control: • In a wider context, great crested newts require good connectivity of landscape features (ponds, hedges etc.) as they often live as metapopulations in a number of ponds • Relatively unpolluted water of roughly neutral pH
Air Pollution Issues	Juvenile Great Crested Newts are sensitive to acid deposition and whilst no critical load data is available a reading has been taken. (See Appendix 1)one of the sources of acid deposition is vehicle emissions. The site is close to three of West Cumbria's busiest roads i.e. A66, A591 and A595 and an increase in traffic along these roads could increase the acid deposition in the breeding ponds and on the adjacent foraging land. It will be important that the HRAs that are carried out for the Site Allocations DPD and the major infrastructure planning applications address the potential risk of an increase in traffic on these sections of road and a corresponding increase in acid deposition.
Water Resource and Wastewater Treatment Issues	*Wastewater* **-** The water flowing into the ponds on this site comes from the immediate surrounding area. The catchment area for local streams and WwTW is completely outside the plan area and therefore this site will be unaffected by sewage pollution from the plan area in a flooding incident. *Water Resources* **-**There are no plans to source drinking water for the plan area from upstream of this site.
Possible Impacts Arising from Plan	The flow of water through the site is towards the borough and not away from it so therefore any increase in water pollution arising from development in the Copeland Plan area will not affect this site. The newts that live on this site are unlikely to require good habitat connectivity in Copeland as they very rarely move more than 1-2km from their breeding pond and, in fact, usually stay much closer than this. None of the policies in the Copeland LDF will impact on this SAC.
<u>Source</u> *Pathway* **Impact**	<u>Pollution in water from increased amount of development</u> *Only through air as water flows from the site towards the plan area.* **Unlikely to be any impact arising from the Copeland LDF Core Strategy.**
Policies that could potentially have a negative impact	N/A
Policies that eradicate/lessen the risk posed	N/A
Is There a Risk of	It is not expected that there will be a significant impact. However, a further HRA

a Significant Effect?	Screening Report will be produced for the LDF Site Allocations DPD. Traffic modelling will be carried out as part of this work and the data will be used to assess whether any increase in traffic will lead to increased acid deposition.
Possible Impacts Arising from Other Plans and Projects	N/A
Is there risk of a significant effect in combination?	N/A

Drigg Coast SAC



Name	Drigg Coast
Designation	SAC
Area (ha)	1397.44
Qualifying	• Estuaries

features	• Coastal dune heathland • Dunes with creeping willow • Intertidal mudflats and sandflats • Glasswort and other annuals colonising mud and sand • Atlantic salt meadows • Shifting dunes • Shifting dunes with marram • Dune grassland • Humid dune slacks
SSSIs within the Site	Drigg Coast
Comments on Nature Conservation Importance and vulnerabilities	Within the site are some of the least-disturbed transitions to terrestrial habitats of any estuary found in the UK. The estuary and sand dunes systems are still relatively 'natural' and there is no threat at present of any development that may affect estuarine processes. Much of the sand dune area is under Countryside Stewardship Agreements or as a Cumbrian Wildlife Trust Reserve. The vulnerability of the marine site will be further identified through Natural England's work to develop and promote the necessary conservation measures for UK marine SACs. Natural England has developed guidance on setting and reviewing conservation objectives, identified key human activities which may affect Annex I and Annex II interests, identified the necessary survey management and monitoring systems, and increased the awareness of those most closely involved in the use and management of marine SACs. Natural England's advice under Regulation 33 has been issued and a brief management scheme statement drafted.
Key Environmental Conditions to Support Site Integrity	Conditions ***not*** within Copeland's control: • Maintain morphological equilibrium of the estuary, including sedimentation patterns • Avoidance of nutrient enrichment • Appropriate grazing of saltmarsh communities • Control of bracken/scrub • Maintain minimal impact of fishing, bait digging and dredging • No increase in organic matter in sediments • High enough water table for dune slacks Conditions within Copeland's control: • No physical constraints to natural migration of mobile habitats such as dunes • Avoidance of damaging levels of erosion from human activities • No physical constraints to managed realignment if required in response to coastal squeeze • Maintain temperature and salinity levels within natural range (this would be related to new nuclear development and although land use planning would not be controlled by Copeland). • Avoidance of pollution • Control of invasive and/or non-native species
Air Quality Issues	The levels of NH_3, SO_2, acid deposition and NO□ sampled at the site do not cause any concern. However, there are issues with the levels of nitrogen deposition which are currently above the critical loads for at least one of the habitats on the site (Dunes with Salix repens ssp. Argentea (Salicion arenariae – 2170)). The A595 runs quite close to the site and is one of the main roads in the West Cumbria area. There could be some deterioration in air quality if traffic increases

	on this road which it may do if nuclear new build goes ahead. It will be very important that any HRA of the planning applications for new nuclear development and the associated infrastructure take account of this as a potential negative impact. (Copeland Borough Council will not be the deciding authority for these planning applications but will highlight the issues that need to be covered in the relevant HRAs during the preparation of the Local Impact Report). The LDF Site Allocations DPD will allocate sites for housing, employment etc. Traffic modelling will be carried out as part of the preparation of this document. The data from this modelling will be used to inform the HRA Screening Report that accompanies the Site Allocations document.
Water Resource and Wastewater Treatment Issues	*Wastewater*: The closest WwTW to this site is at Seascale. United Utilities have reported that this facility is not experiencing any capacity problems and will be able to cope with the planned growth in Seascale. *Water resources*: This site will not be subject to water abstraction or affected by water abstraction elsewhere.
Possible Impacts Arising from Plan	•Improved road access to the coast could increase recreational access and increase opportunities for litter and fuel pollution as well as erosion. •Concerns regarding the potential impact of radioactive waste storage in the vicinity of the site. •Concerns over nuclear cooling water potentially being discharged into the sea affecting temperature and salinity (?) – Although this is a concern it would be more appropriately dealt with in the HRA that would accompany any planning permission for nuclear new build and this will not be dealt with by Copeland planning. •Development on or immediately behind the coast could constrain managed realignment and prevent the natural movement of dunes. • Careless planting schemes could lead to invasive and non-native plant species being introduced to the landscape and these could creep towards the site over time.
Source *Pathway* **Impact**	• *More road traffic* due to improved road access leading to more **air pollution, littering** and **erosion***through trampling* • More housing and employment development leading to **more air, ground and water pollution generally.** • Storage of radioactive material potentially leading to *contamination* and **possible genetic mutations** • Nuclear cooling water potentially being *pumped into the sea* leading to possible **changes in salinity and temperature** • Development immediately behind the coast leading to the need to **stop the natural movement of the dunes** • Increased amount of development in the plan area some of which will have planting schemes *Creeping of non-native species across land towards the sensitive site.* **Competition with sensitive species leading to decline or extinction on the site.**
Policies that could potentially have a negative impact	Policies that could have a negative impact on this SAC are: **ST1** – Support for energy, economic and housing growth as well as community facilities and leisure uses. **ST2** – Support for nuclear and renewable energy generating developments on the coast as well as the essential infrastructure to support it. **ST3** – Support for new nuclear development on the site adjacent to Sellafield (i.e. further away from the Drigg coast site)

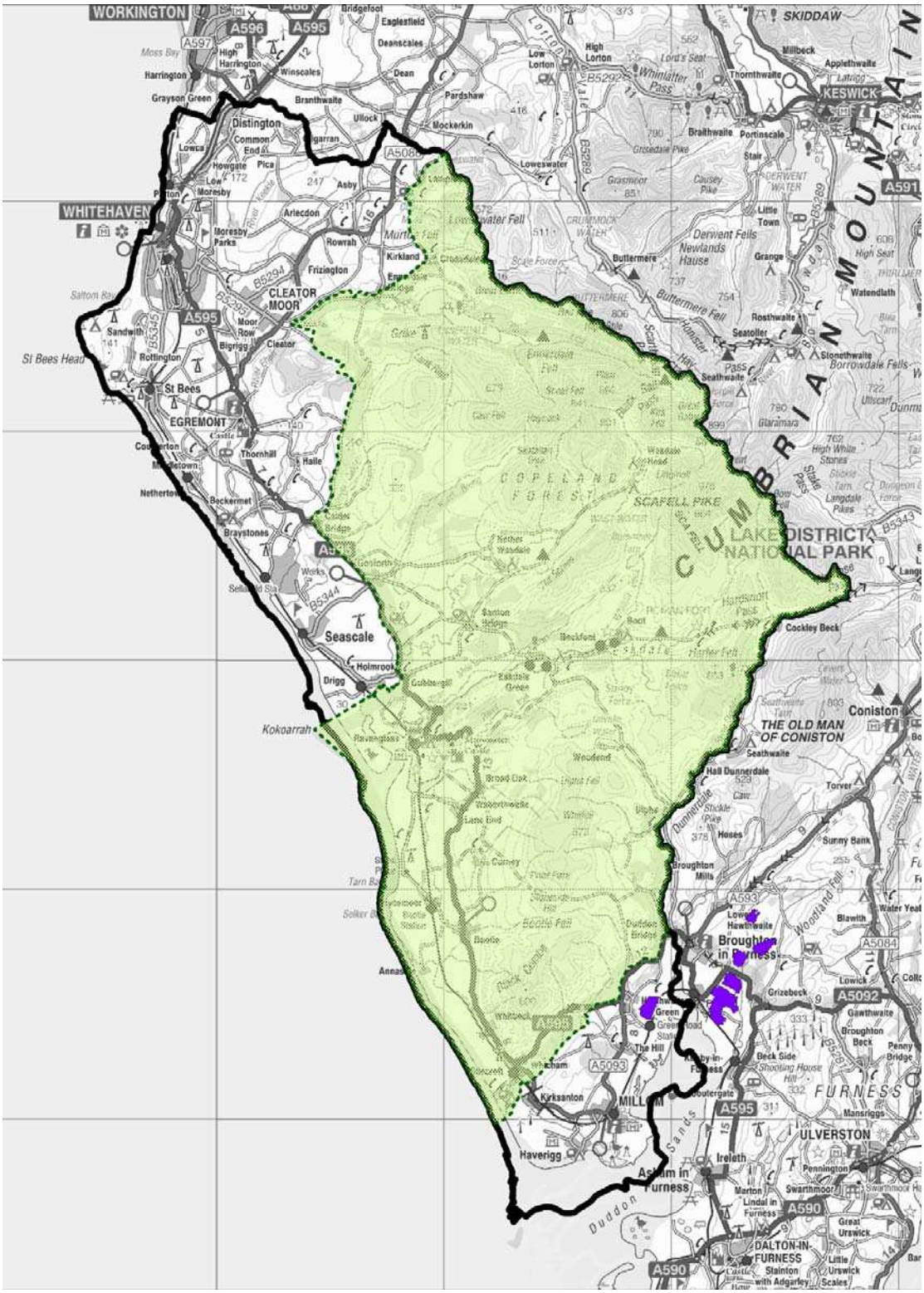
	ER1 – Major nuclear energy expansion on the site north of Sellafield is supported in principle. The Council will establish if there is community support and a full safety case for a high level waste repository. Construction of both will generate carbon emissions and could produce other air and ground pollution. **ER2** – Renewable energy developments at locations which best maximise generation. **ER3 -** Construction of Energy Coast Infrastructure will generate emissions **ER4** – potential for increased air pollution if land uses include B2 **ER7 -** Increased amount of development **ER8 -** Providing more car parking in the town centre could encourage more people to drive rather than use public transport. **ER10** – Expand tourism outside the LDNP. **SS1 –** Increased amount of housing development **SS2 –** Increased amount of housing development **SS3 -** Increased amount of housing development **T1** – Road improvements that could encourage car use. **ENV2** – Maximise opportunities along the undeveloped for tourism and outdoor recreation. Support energy generating developments that require a coastal location **DM26 -** Landscaping schemes will have to be submitted with all development proposals.
Policies that eradicate/lessen the risk posed	**ST1 -** Ensure development minimises air pollution, minimise the need to travel **ST4** – development proposals should provide, or contribute to the provision of environmental requirements either on or off site. **ER2** – Support and facilitate new renewable energy generating at locations which minimise environmental impacts within acceptable limits (what are the acceptable limits?) **ER3** – Ensure that any new energy transmission infrastructure minimises potential impacts on biodiversity. **ER5** – Additional planting around existing industrial estates is likely to have a positive impact on air quality. **ER9 -** Protection of services within smaller centres will limit the amount of car travel to larger centres to access essential services. **ER10** – Locate new tourist accommodation, facilities and attractions where these can be accommodated without adverse environmental impacts. **SS5** – Protecting and enhancing green infrastructure will improve air quality **ENV1 -** Planting trees to control flood risk will have a positive impact on air quality **ENV2** – Support the management of more of the undeveloped coast for biodiversity. Support developments that require a coastal location along the undeveloped coast provided that the potential impacts on biodiversity are carefully assessed against the benefits. Where negative impacts are likely these must be mitigated against and compensated for. **ENV3** – The Council will seek to improve the condition of internationally designated sites, ensure that development protects and enhances biodiversity interest, restrict access and usage where appropriate in order to conserve an area's biodiversity value. **ENV5** – On site mitigation to take place where the positive impacts of the development clearly outweigh the negative impact on the landscape. Encouraging green infrastructure will have a positive impact on air quality. **ENV6** - The planting of a community forest would positively impact on the air quality

	in and beyond Copeland. **DM1** – Proposals involving the use, storage and processing of radioactive material should include a strategy for the long term management and safety of the site and material. Particular attention would be given to whether the residual impacts of the proposed development would be acceptable. The Council will seek an appropriately scoped, scaled and phased package of community benefits to mitigate the environmental impacts of the development. **DM11** – Encouraging developers to achieve high standards of energy efficiency **DM12** – Provision of public green space in residential areas **DM24 -** All development should protect the biodiversity value of land and buildings and minimise fragmentation of habitats. Maximise opportunities for conservation, restoration, enhancement and connection of habitats. All development proposals must take into account internationally important sites within the borough and within 20km of the borough boundary as well as those that are hydrologically linked to the borough. **DM25** –All development proposals must take into account any likely significant effects on the internationally important sites both within the borough and within a 20km radius of the borough boundary as well as those that are hydrologically linked to the development plan area. **DM26 -** Landscaping schemes will have to be submitted with all development proposals.
Is There a Risk of a Significant Effect?	New nuclear development and the construction of some energy related infrastructure could have a negative impact on this site. However, the Council will not be the planning authority for this type of development. An appropriate assessment will have to be carried out at planning application stage with consideration given to the matter in the Local Impact Report. A significant amount of housing development will take place over the plan period but the preferred sites for that development have not been allocated yet. This work will form part of the preparation for the Site Allocations DPD and this document will be accompanied by its own HRA Screening Report. Focussing development around Whitehaven and the three Key Service Centres will reduce the need to travel far to access employment and services and therefore keep traffic related emissions to a minimum. With regards to an increased amount of employment development, the same applies. There are a significant number of policies within the Core Strategy and Development Management Policies DPD that highlight the importance of minimising carbon emissions and increasing the amount and quality of green infrastructure, which will help to control air pollution. Regarding the prevention of introduction of non-invasive species – there is probably scope for adding some words to the policy DM26 that allow conditions to be put on planning permissions that states that all species used in landscaping schemes must use plants that are native to that particular landscape. Trampling is an important issue when considering policies that encourage more people into any given area. ENV3F does, however, allow for planners to add conditions that will restrict access and usage of land where that would lead to trampling and disturbance of sensitive habitats and species. This should significantly lessen the risk of damage.
Possible Impacts Arising from Other Plans and Projects	**Proposals within West Cumbria Masterplan** – Development of the Westlakes Research Institute at the Science and Technology Park. Development of the National Nuclear Skills Academy at Lillyhall, the Dalton Institute (lab facilities)at Westlakes, further investment in the employment sites at Leconfield and

	Bridgend. A 'health campus' on the current hospital site and new University of Cumbria facilities at Lillyhall. New National Nuclear Laboratory headquarters in West Cumbria. **North West RSS -** Drigg coast falls within North West coast area of search for a regional park and a planned North West Coastal Trail. There is potential for increased visitor pressure. **Allerdale LDF Core Strategy Issues and Options** – additional 267-350 dwellings per year (equating to an extra 4000-5250 dwellings over the plan period). Some limited housing development in rural local centres but mainly focused in more sustainable locations i.e. Workington, Maryport, Aspatria, Cockermouth, Wigton etc. **Lake District National Park Core Strategy** – 900 additional dwellings in the period to 2025 (50% in rural service centres, 20% in villages and 30% in clusters and the open countryside). There will be an additional 9.2ha of employment land and it is acknowledged that the Park needs one or more additional nationally significant visitor attractions. **Lake District National Park Site Allocations Preferred Options** – All employment land allocated will be in the Rural Service Centres. The Drigg Coast SAC falls into the West Distinctive Area which will accommodate 10% of all development in the LDNP. **Carlisle LDF Core Strategy Issues and Options** – Currently no policy direction offered. Carlisle has been designated as a growth point though so it can be reasonably expected that there will be a significant amount of additional housing and employment development over the plan period. **Eden Adopted Core Strategy** – Focus new build housing in Key and Local Service Centres whilst allowing for meeting essential needs in smaller settlements. The plan takes the RSS housing target of 239 additional dwellings per annum to 2025 (over 3100 units in total). 50ha of employment land will be made available to 2025. **Barrow Port Area Action Plan** – 925 additional dwellings in the Action Plan Area to 2021. Additional leisure facilities including marina and boat servicing area, Waterfront hotel, Water sports centre and very limited amount of retail. Improving access to the operational port from road and sea to support new opportunities to increase the proportion of freight moved by sea. Development of Waterfront Business Park as a major new business and employment location (24.5ha site). **South Lakeland LDF Core Strategy** – 55% of new housing and employment development will be in the Principal Service Centres, 13% in Key Service Centres, 21% in Local Service Centres and 11% in the smaller villages and hamlets. Housing target is 469 additional dwellings per year equating to nearly 6100 to 2025. 21ha of employment development to be accommodated in Kendal to 2025, 12ha to be accommodated in Ulverston and Furness but overall 4 ha of employment land will be allocated per annum between 2010 and 2025 equating to 60ha over the plan period. **Cumbria Local Transport Plan 3** – Support for the upgrading of the A595, A590, A5094 and A66 as well as any improvements needed to support growth in the low carbon energy sector. Increased bus services in rural areas. Improvement to the Cumbria West Coast Railway. Carlisle Northern Development Route will be completed in 2012. **Cumbria Minerals and Waste LDF Core Strategy** – no regional waste facilities to be located in Cumbria. At least one new waste facility will be needed in the

	south of the county. Proposes a decentralised network of waste facilities with a preference for sites which could accommodate more than one type of facility, for example, a Household Waste Recycling Centre and a Transfer/Bulking Station. This relates well to the Overall Strategy and Core Strategy Policy for minimising "waste miles". **Cumbria Minerals and Waste Site Allocations DPD** – Allocates sites for mineral working and waste facilities. The HRA for this document stated that there were 13 sites in the whole of the county that would require an Appropriate Assessment at project stage but that the policies themselves were unlikely to have negative effects on the integrity of any of the sites. The mitigation measures that are considered likely to be needed are common place and could form the conditions of the planning application. **Shoreline Management Plan 2** – Allowing natural erosion of cliffs between Selker and Stubb Place and limited intervention between Stubb Place and Eskmeals Dunes. This will allow continued natural coastal evolution and roll-back of the dunes but will manage risk to assets. Short term measures will be taken to allow continued use of the road at Stubb Place whilst a long term solution is sought. The line will be held at Ravenglass by maintaining and improving existing seawalls and embankments. North of Seascale the cliffs will be allowed to erode.
Is there risk of a significant effect in combination?	There is a risk of significant effects in combination but the information available at the moment is limited. A separate HRA Screening report will accompany the Site Allocations DPD.

Duddon Mosses SAC



Name	Duddon Mosses
Designation	SAC
Area (ha)	313.07

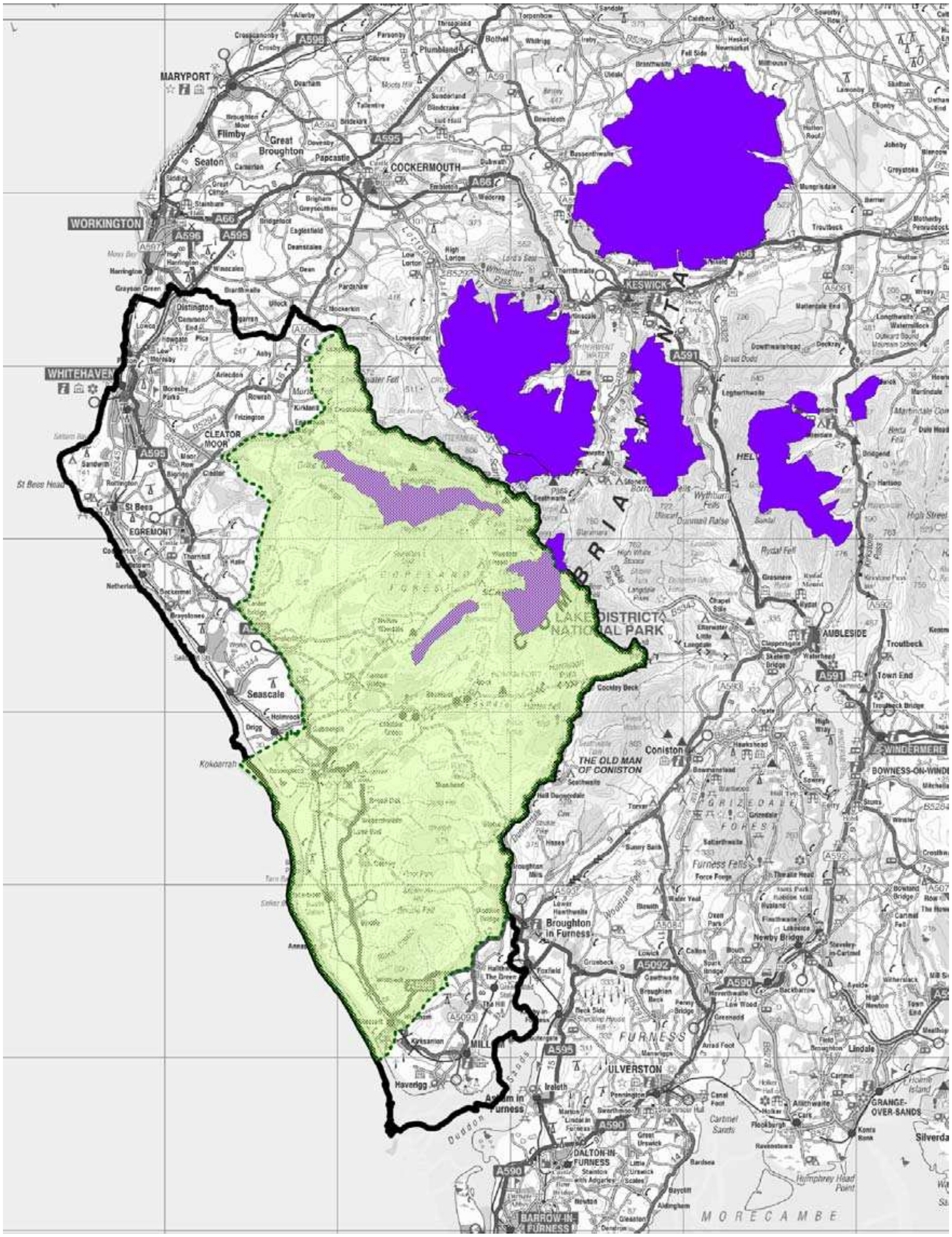
Qualifying features	• Active raised bogs • Degraded raised bog
SSSIs within the site	Duddon Mosses
Comments on Nature Conservation Importance and vulnerabilities	In the southern part of the complex, where there are transitions from saltmarsh to bog, the vegetation is rich in the rare golden bog-moss. Pockets in the degraded areas include raised bog plants such as bog-mosses with good prospects for regeneration provided the hydrology is repaired. Past drainage for peat extraction has lowered the water table and allowed scrub to spread across the mosses. The majority of landowners have management agreements with Natural England to allow restoration work. A programme of scrub removal and ditch-blocking is being undertaken, with positive results.
Key Environmental Conditions to Support Site Integrity	Conditions ***not*** within Copeland's control: • Restoration of sufficient water table (involving ditch blocking) • Scrub and bracken control Conditions within Copeland's control: • Maintain nutrient poor status • Absence of atmospheric pollution
Air Quality Issues	The levels of SO_2, ozone and NO sampled at the site do not cause any concern. However, there are issues with the levels of NH_3, nitrogen deposition and acid deposition which are currently above the critical loads for the two types of habitat on this site. There are a number of A roads close to the site (A595, A5092, A5093, A5084, A593). It will be important that the HRA of the Site Allocations DPD and the nuclear new build and infrastructure planning applications take the impact of increased traffic on these roads into account.
Water Resource and Wastewater Treatment Issues	*Wastewater:*The Millom waste water treatment works can accommodate the planned growth in the Millom area. Consequently there is unlikely to be any pollution arising from untreated wastewater getting onto the site. *Water Resources:* There are currently no plans to source drinking water from South Copeland.
Possible Impacts Arising from Plan	•Increased tourist vehicular traffic impacting on air quality – the prevailing wind is westerly/ south westerly so increases in traffic in the Millom area could have a detrimental effect.
Source *Pathway* **Impact**	Increased tourism and access could lead to increased traffic movement in the South Copeland/Mid Copeland area resulting in **more air pollution** that would travel on the *prevailing wind towards the site*.
Policies that could potentially have a negative impact	The following policies could increase the amount of atmospheric pollution and therefore impact negatively on this SAC: **ST1** – Support for energy, economic and housing growth as well as community facilities and leisure uses. **ST2** – Increased amount of development **ST3**–Support for new nuclear development on the site adjacent to Sellafield (i.e. further away from the Drigg coast site than the current site.) **ER1 –** Construction phase of NNB will generate carbon emissions **ER3 –** Construction of Energy Coast Infrastructure will generate emissions **ER4 –** potential for increased air pollution if land uses include B2 **ER7** – Increased amount of development **ER8** – Providing more car parking in the town centre could encourage more people to drive rather than use public transport.

	ER10 – Expand tourism outside the LDNP. **ER11 -** Supporting new and expanding employment sectors. Supporting the development of commercial units. **SS1 –** Increased amount of housing development **SS2 –** Increased amount of housing development **SS3 -** Increased amount of housing development **T1** – Road improvements that could encourage car use. **ENV2 -** Maximise opportunities along the undeveloped coast for tourism and outdoor recreation and support energy generating developments that require a coastal location.
Policies that eradicate/lessen the risk posed	**ST1 -** Ensure development minimises air pollution, minimise the need to travel **ST4** - Policy will allow LPA to ask for measures to be put in place to protect air quality where this might be compromised in the operation of the development. **ER3** – Ensure that any new energy transmission infrastructure minimises potential impacts on biodiversity. **ER5** – Additional planting around existing industrial estates is likely to have a positive impact on air quality. **ER9 -** Protection of services within smaller centres will limit the amount of car travel to larger centres to access essential services. **SS5** – Protecting and enhancing green infrastructure will improve air quality **T1** – improved public transport network. **T2** – reducing the need to travel through supporting the provision of high quality broadband connections **ENV1** – Planting trees to control flood risk will have a positive impact on air quality **ENV3 -** Protecting and extending woodland habitat will have a positive impact on air quality. **ENV5**– On site mitigation to take place where the positive impacts of the development clearly outweigh the negative impact on the landscape. Encouraging green infrastructure will have a positive impact on air quality. **ENV6 -** The planting of a community forest would positively impact on the air quality in and beyond Copeland. **DM11** – Encouraging developers to achieve high standards of energy efficiency **DM12** – Provision of public green space in residential areas **DM24** – Protection and expansion of habitats i.e. green spaces leading to better air quality. **DM25** –All development proposals must take into account any likely significant effects on the internationally important sites both within the borough and within a 20km radius of the borough boundary as well as those that are hydrologically linked to the development plan area. **DM26** - Landscaping schemes will have to be submitted with all development proposals.
Is There a Risk of a Significant Effect? There is a risk of an increase in diffuse air pollution.	There is the risk of a greater amount of diffuse air pollution. However there are policies in the Core Strategy that encourage a greater amount of green infrastructure and sustainable transport options. It is considered that this document does all that it can at a very strategic level. Until more information is available i.e. at site allocations or project stage it will be very difficult to carry out an appropriate assessment. A separate HRA screening report will be produced as part of the preparation of the Site Allocations DPD.
Possible Impacts	• Development at Barrow-in-Furness, Duddon-in-Furness, Ulverston and

Arising from Other Plans and Projects	especially Millom could increase traffic on the A5092 with potential air quality implications. • Any improvements to the A5092 risk hydrological, water quality and air quality effects, especially during construction. • Duddon Mosses fall within North West coast area of search for a regional park and a planned North West Coastal Trail. Dependent on selection of area, and proposed uses (e.g. leisure, tourism) there is potential for increased visitor pressure. The Cumbria Coastal Way already passes through the site. **Proposals within West Cumbria Masterplan**– Development of the Westlakes Research Institute at the Science and Technology Park. Development of the National Nuclear Skills Academy at Lillyhall, the Dalton Institute (lab facilities)at Westlakes, further investment in the employment sites at Leconfield and Bridgend. A 'health campus' on the current hospital site and new University of Cumbria facilities at Lillyhall. New National Nuclear Laboratory headquarters in West Cumbria. **North West RSS -** Drigg coast falls within North West coast area of search for a regional park and a planned North West Coastal Trail. There is potential for increased visitor pressure. **Allerdale LDF Core Strategy Issues and Options** – additional 267**-**350 dwellings per year (equating to an extra 4000**-**5250 dwellings over the plan period). Some limited housing development in rural local centres but mainly focused in more sustainable locations i.e. Workington, Maryport, Aspatria, Cockermouth, Wigton etc. **Lake District National Park Core Strategy** – 900 additional dwellings in the period to 2025 (50% in rural service centres, 20% in villages and 30% in clusters and the open countryside). There will be an additional 9.2ha of employment land and it is acknowledged that the Park needs one or more additional nationally significant visitor attractions. **Lake District National Park Site Allocations Preferred Options** – All employment land allocated will be in the Rural Service Centres. Duddon Mosses SAC falls into the South Distinctive Area which will accommodate 14% of all development in the LDNP. **Carlisle LDF Core Strategy Issues and Options** – Currently no policy direction offered. Carlisle has been designated as a growth point though so it can be reasonably expected that there will be a significant amount of additional housing and employment development over the plan period. **Eden Adopted Core Strategy** – Focus new build housing in Key and Local Service Centres whilst allowing for meeting essential needs in smaller settlements. The plan takes the RSS housing target of 239 additional dwellings per annum to 2025 (over 3100 units in total). 50ha of employment land will be made available to 2025. **Barrow Port Area Action Plan** – 925 additional dwellings in the Action Plan Area to 2021. Additional leisure facilities including marina and boat servicing area, Waterfront hotel, Water sports centre and very limited amount of retail. Improving access to the operational port from road and sea to support new opportunities to increase the proportion of freight moved by sea. Development of Waterfront Business Park as a major new business and employment location (24.5ha site). **South Lakeland LDF Core Strategy** – 55% of new housing and employment development will be in the Principal Service Centres, 13% in Key Service Centres, 21% in Local Service Centres and 11% in the smaller villages and hamlets.

	Housing target is 469 additional dwellings per year equating to nearly 6100 to 2025. 21ha of employment development to be accommodated in Kendal to 2025, 12ha to be accommodated in Ulverston and Furness but overall 4 ha of employment land will be allocated per annum between 2010 and 2025 equating to 60ha over the plan period. **Cumbria Local Transport Plan 3** – Support for the upgrading of the A595, A590, A5094 and A66 as well as any improvements needed to support growth in the low carbon energy sector. Increased bus services in rural areas. Improvement to the Cumbria West Coast Railway. Carlisle Northern Development Route will be completed in 2012. **Cumbria Minerals and Waste LDF Core Strategy** – no regional waste facilities to be located in Cumbria. At least one new waste facility will be needed in the south of the county. Proposes a decentralised network of waste facilities with a preference for sites which could accommodate more than one type of facility, for example, a Household Waste Recycling Centre and a Transfer/Bulking Station. This relates well to the Overall Strategy and Core Strategy Policy for minimising "waste miles". **Cumbria Minerals and Waste Site Allocations DPD** – Allocates sites for mineral working and waste facilities. The HRA for this document stated that there were 13 sites in the whole of the county that would require an Appropriate Assessment at project stage but that the policies themselves were unlikely to have negative effects on the integrity of any of the sites. The mitigation measures that are considered likely to be needed are common place and could form the conditions of the planning application. **Shoreline Management Plan 2** – In the Duddon Estuary area the approach is to maintain the line, where there are assets to protect, and to let the shore continue to erode where there are limited assets.
Is there risk of a significant effect in combination?	As all of the above plans are planning for a greater amount of development in each of the plan areas it is likely that there could be a significant effect on the integrity of the site. A separate HRA screening report will be prepared in tandem with the Site Allocations DPD.

Lake District High Fells SAC



Name	Lake District High Fells
Designation	SAC
Area (ha)	26999.36
Qualifying features	• Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels

	• Wet heathland with cross-leaved heath • Dry heaths • Alpine and subalpine heaths • Juniper 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 • Base-rich fens • Plants in crevices on base-rich rocks • Slender green feather-moss
SSSIs within the site	Wasdale Screes Pillar and Ennerdale Fells Honister Crag Buttermere Fells Force Crag Mine Armboth Fells Skiddaw Group
Comments on Nature Conservation Importance and site vulnerabilities	•Tall herb ledge communities are mainly found in Helvellyn and Fairfield (probably one of the most important areas in England for calcareous montane flora found on the extensive cliff ledges). •Scarce plants occur throughout the tall herb areas. A number of rare arctic-alpine species occur at Helvellyn and Fairfield. Buttermere Fells is also a locality for the rare alpine catchfly. •The site has the most extensive development of screes with parsley fern in the UK. Crevices and wet rock faces support a number of uncommon ferns. The European habitats on this site, other than acidic scree, are threatened by grazing and more locally grazing combined with visitor pressure. A very high proportion of the site occurs on unfenced common land where control of grazing is difficult to achieve and pressure of sheep threatens to destroy or prevent favourable condition from being achieved. These pressures have been significantly reduced over much of the site by entry into the Lake District ESA scheme, but this largely only slows or possibly arrests decline. Siliceous scree is possibly the least-threatened habitat and is widespread, albeit in a modified state.
Key Environmental Conditions to Support Site	Conditions***not*** within Copeland's control: • Prevention of fire on bog and alpine heath habitats • Maintenance of water levels and natural hydrological regime • High rainfall • Appropriate grazing • Control of scrub and/or bracken Conditionswithin Copeland's control: • Absence of nutrient enrichment • Absence of water pollution • Absence of atmospheric pollution • Avoidance of anthropomorphic sediment input to lakes

	• Control of invasive and non-native species and disease outbreaks • Avoidance of damaging levels of erosion from trampling, vehicles etc.
Air Quality Issues	The levels of SO_2, ozone and NO sampled at the site do not cause any concern. However, there are issues with the levels of nitrogen and acid deposition which are currently above the critical loads for the three different types of habitat on this site. Levels of NH_3 are very close to the critical levels for some of the habitats i.e. those where bryophytes are present. (See appendix 1 for details). This site is in several parts and covers a large area. There are a number of moderately busy A roads running between some of the sites (A66, A591 and slightly further away, the A595). Increases in traffic along these roads arising from proposals in the Site Allocations DPD and in applications submitted by the nuclear industry, will have to be taken into account in the HRA Screening Reports accompanying these plans.
Water Resource and Wastewater Treatment Issues	*Wastewater:* The topography of the land between the plan area and the different parts of the site would prevent any untreated sewage water from polluting the site. *Water resources:* United Utilities abstract water from Ennerdale Water but a high water table is not a condition required to support the integrity of the site.
Possible Impacts Arising from Plan	Anthropomorphic sediment input into the lakes originating from the plan area is unlikely due to the direction of flow of water towards the sea. Potentially significant negative effects • Water contamination can result from rain water falling through air contaminated with car fumes or industrial emissions and therefore any increase in these particulates could cause an increase in water pollution. An increase in housing and employment development anywhere in the borough could contribute to an increase in air pollution over the Lake District High Fells. • Careless planting schemes could lead to invasive plant species being introduced to the landscape and these could creep towards the site over time. • Improved public transport access to the Lake District National Park has potential to increase tourism and recreational use of the area and therefore trampling.
Source *Pathway(s)* **Impact (s)**	Increased access to the LDNP will increase number of tourists and therefore **increased erosion** *from trampling and vehicular traffic.* Increased amount of development leading to **greater air pollutants** which could *travel on the prevailing wind* towards the site. *Rain falling through polluted air* could lead to a small amount of **water pollution affecting the health of important species.** Increased amount of development in the plan area some of which will have planting schemes *Creeping of non-native species across land towards the sensitive site.* **Competition with sensitive species leading to decline or extinction on the site.**
Policies that could potentially have a negative impact	**ST1** – Support energy, economic and housing development as well as services and recreational facilities. **ST2** - facilitate growth in the local economy and associated growth in demand for housing and services. Support for new nuclear generating capacity and essential infrastructure. **ST3** – In pursuit of economic regeneration and growth. **ER1** – Support for nuclear new build – whilst the operational phase should be reasonably clean with regards to emissions, the construction phase has the

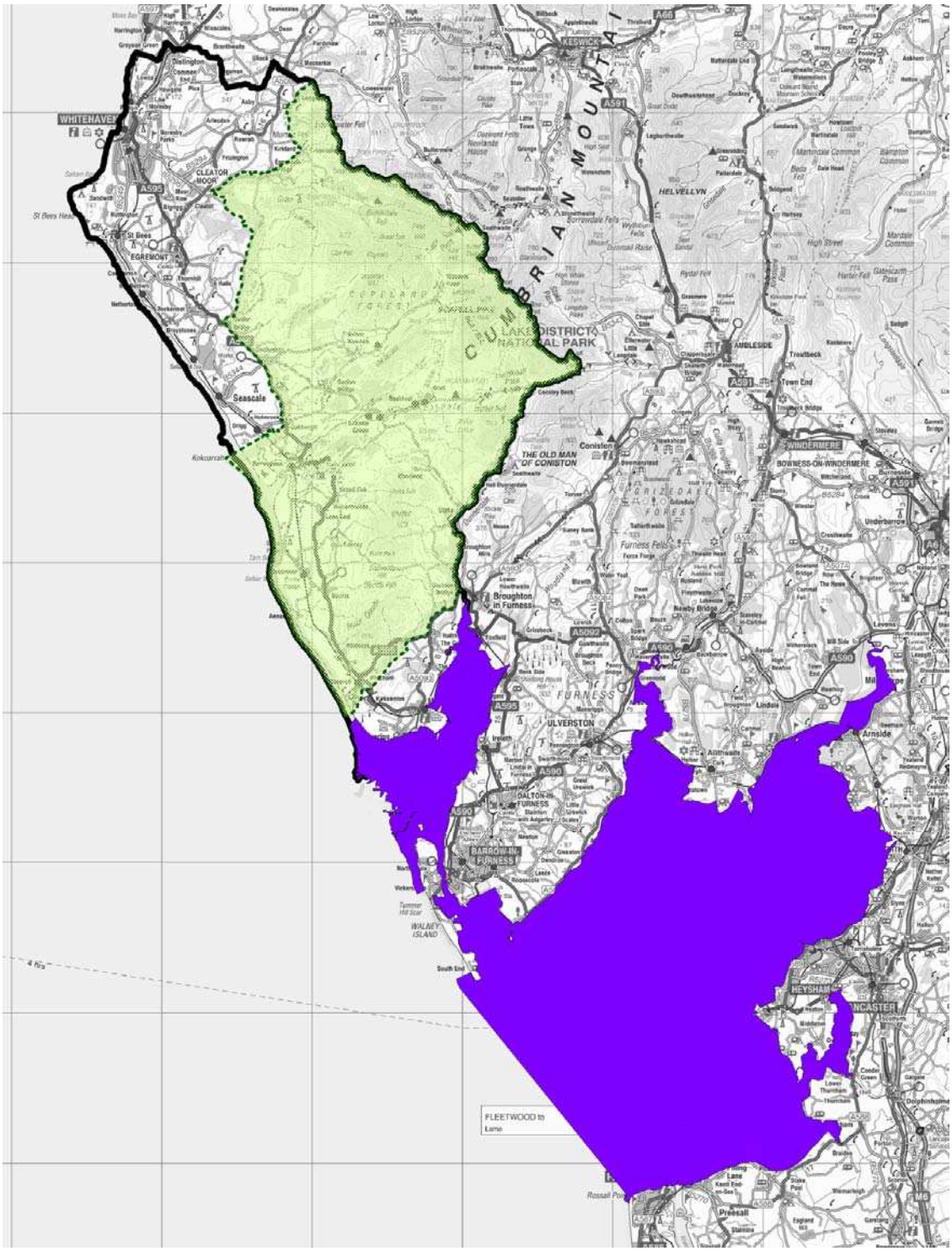
	potential to have a negative impact. **ER2** – Support for renewable energy developments **ER3** – Identify sites for NNB construction workers accommodation, encourage development of new educational facilities. **ER4** – Allocating land for economic development over the plan period at a rate exceeding the take up rate of the past. **ER7** – Supporting the continued growth of Whitehaven. Encourage evening and night time uses. **ER8** – Enhancing the retail function of the town centre and improving the tourism offer. Developments should provide parking both for the development and the town centre. More parking could encourage more people to drive rather than take public transport. Conversion of vacant floors over shops into residential accommodation. Redrawing the town centre boundary to reflect the anticipated growth and development in the area. **ER9** – Town centre improvements will be encouraged in the Key Service Centres to attract more visitors. **ER10** – Expand tourism outside the Lake District boundaries. **ER11** – Supporting new and expanding employment sectors. Supporting the development of commercial units. **SS1** – Allocation of housing sites, renovation and improvement of existing housing stock, demolition and redevelopment schemes. **SS2** – Housing allocations to meet a baseline requirement of 230-300 dwellings per year. **SS4 -** Encouraging the provision of good quality services and facilities **T1** – Transport improvements including new Pow Beck Spine Road, new Eastern relief road, improvements to A595 and A5086. Better connections will be sought to the A66, M6, A595 etc. Parking strategy will set out guidance for incorporating car parking in new developments. **ENV2** – Support for energy generating developments which require a coastal location along the undeveloped coast. **ENV4** – Supporting proposals for heritage led regeneration. **DM26 -** Landscaping schemes will have to be submitted with all development proposals.
Policies that eradicate/lessen the risk posed	**ST1 –** Protect and enhance sites of nature conservation and biodiversity value. Encourage creation of new areas of green infrastructure. Ensure development minimises air, ground and water pollution. **ST2** – Growth should be concentrated in the settlements focussing the largest scale development in sustainable locations. **ST4 -** Development proposals should provide, or contribute to the provision of environmental requirements on or off site. **ER1** – The Council will work with partners to identify whether a high-level waste repository can be justified and that there are no negative impacts on, inter alia, the environment. The Council will seek to ensure that all investment in the nuclear sector is accompanied by financial or in-kind contributions to mitigate any potentially detrimental impacts. **ER2** – Support for renewable energy generating developments at locations which minimise environmental impacts so that they are within acceptable limits. **ER3** – Ensure that any new energy infrastructure minimises potential impacts on biodiversity. **ER6** – Presumption in favour of employment sites in sustainable locations.

	ER10 - Wherever possible tourism providers will be required to ensure that accommodation and attractions are well connected to other tourist destinations and amenities, particularly by public transport, walking and cycling. Locate new tourist accommodation, facilities and attractions where there is proven capacity for additional visitors to be accommodated without adverse environmental or amenity impacts. **T1 -** The Council will support transport improvements that maximise accessibility for all modes of transport but particularly by foot, cycle and public transport. **T2 -** Developments which seek to extend or improve connectivity through existing and emerging telecommunications in all parts of the Borough will be supported (subject to appropriate safeguards) – minimising the need to travel. **ENV1** – Planting trees to control flood risk will have a positive impact on air quality **ENV3** - Protecting and extending woodland habitat will have a positive impact on air quality. **ENV5**– On site mitigation to take place where the positive impacts of the development clearly outweigh the negative impact on the landscape. Encouraging green infrastructure will have a positive impact on air quality. **ENV6 -** Identifying potential for a community forest to the South and West of Egremont. A large number of trees planted in the borough would help to lower the levels of pollution in the air over the longer term. **DM1 -** Proposals involving the use, storage and processing of radioactive material should include a strategy for the long term management and safety of the site and material. The Council and other Key stakeholders should be fully involved in any Environmental Assessment undertaken. The Council will seek an appropriately scoped, scales and phased package of community benefits to minimise the environmental impacts of the nuclear development. **DM2** – Renewable energy development will have no adverse impact on biodiversity. Proposals should be developed with key stakeholders (which will include biodiversity organisations). **DM5** – Proposals for any new nuclear facilities should be submitted with long term management plans that will minimise any harmful effects. **DM22** - Where necessary the potential transport implications of development will be required to be supported by a Transport Assessment and a Travel Plan to manage any significant transport implications. **DM25** - All development proposals must take into account any likely significant effects on the internationally important sites both within the borough and within a 20km radius of the borough boundary as well as those that are hydrologically linked to the development plan area. **DM26** - Landscaping schemes will have to be submitted with all development proposals.
Is There a Risk of a Significant Effect?	There is the risk of a greater amount of diffuse air pollution. However there are policies in the Core Strategy that encourage a greater amount of green infrastructure and sustainable transport options. It is considered that this document does all that it can at a very strategic level. Until more information is available i.e. at site allocations or project stage it will be very difficult to carry out an appropriate assessment. Regarding the prevention of introduction of non-invasive species – there is probably scope for adding some words to the policy DM26 that allow conditions to be put on planning permissions that states that all species used in

	landscaping schemes must use plants that are native to that particular landscape. Trampling is an important issue when considering policies that encourage more people into any given area. ENV3F does, however, allow for planners to add conditions that will restrict access and usage of land where that would lead to trampling and disturbance of sensitive habitats and species. This should significantly lessen the risk of damage. A separate HRA screening report will be produced as part of the preparation of the Site Allocations DPD.
Possible Impacts Arising from Other Plans and Projects	**Policy W6 of the RSS**advocates tourism development adjacent to National parks and AONBs – this applies to part of this site and could lead to increased visitor pressure. **Proposals within West Cumbria Masterplan**– Development of the Westlakes Research Institute at the Science and Technology Park. Development of the National Nuclear Skills Academy at Lillyhall, the Dalton Institute (lab facilities)at Westlakes, further investment in the employment sites at Leconfield and Bridgend. A 'health campus' on the current hospital site and new University of Cumbria facilities at Lillyhall. New National Nuclear Laboratory headquarters in West Cumbria. **Allerdale LDF Core Strategy Issues and Options** – additional 267**-**350 dwellings per year (equating to an extra 4000**-**5250 dwellings over the plan period). Some limited housing development in rural local centres but mainly focused in more sustainable locations i.e. Workington, Maryport, Aspatria, Cockermouth, Wigton etc. **Lake District National Park Core Strategy** – 900 additional dwellings in the period to 2025 (50% in rural service centres, 20% in villages and 30% in clusters and the open countryside). There will be an additional 9.2ha of employment land and it is acknowledged that the Park needs one or more additional nationally significant visitor attractions. **Lake District National Park Site Allocations Preferred Options** – All employment land allocated will be in the Rural Service Centres. Lake District High Fells SAC falls into the North West Distinctive Area which will accommodate 25% of all development. **Carlisle LDF Core Strategy Issues and Options** – Currently no policy direction offered. Carlisle has been designated as a growth point though so it can be reasonably expected that there will be a significant amount of additional housing and employment development over the plan period. **Eden Adopted Core Strategy** – Focus new build housing in Key and Local Service Centres whilst allowing for meeting essential needs in smaller settlements. The plan takes the RSS housing target of 239 additional dwellings per annum to 2025 (over 3100 units in total). 50ha of employment land will be made available to 2025. **Barrow Port Area Action Plan** – 925 additional dwellings in the Action Plan Area to 2021. Additional leisure facilities including marina and boat servicing area, Waterfront hotel, Water sports centre and very limited amount of retail. Improving access to the operational port from road and sea to support new opportunities to increase the proportion of freight moved by sea. Development of Waterfront Business Park as a major new business and employment location (24.5ha site). **South Lakeland LDF Core Strategy** – 55% of new housing and employment development will be in the Principal Service Centres, 13% in Key Service

	Centres, 21% in Local Service Centres and 11% in the smaller villages and hamlets. Housing target is 469 additional dwellings per year equating to nearly 6100 to 2025. 21ha of employment development to be accommodated in Kendal to 2025, 12ha to be accommodated in Ulverston and Furness but overall 4 ha of employment land will be allocated per annum between 2010 and 2025 equating to 60ha over the plan period. **Cumbria Local Transport Plan 3** – Support for the upgrading of the A595, A590, A5094 and A66 as well as any improvements needed to support growth in the low carbon energy sector. Increased bus services in rural areas. Improvement to the Cumbria West Coast Railway. Carlisle Northern Development Route will be completed in 2012. **Cumbria Minerals and Waste LDF Core Strategy** – no regional waste facilities to be located in Cumbria. At least one new waste facility will be needed in the south of the county. Proposes a decentralised network of waste facilities with a preference for sites which could accommodate more than one type of facility, for example, a Household Waste Recycling Centre and a Transfer/Bulking Station. This relates well to the Overall Strategy and Core Strategy Policy for minimising "waste miles". **Cumbria Minerals and Waste Site Allocations DPD** – Allocates sites for mineral working and waste facilities. The HRA for this document stated that there were 13 sites in the whole of the county that would require an Appropriate Assessment at project stage but that the policies themselves were unlikely to have negative effects on the integrity of any of the sites. The mitigation measures that are considered likely to be needed are common place and could form the conditions of the planning application.
Is there risk of a significant effect in combination?	As all of the above plans are planning for a greater amount of development in each of the plan areas it is likely that there could be a significant effect on the integrity of the site. A separate HRA screening report will be prepared in tandem with the Site Allocations DPD.

Morecambe Bay SAC



Name	Morecambe Bay
Designation	SAC

Area (ha)	61506.22
Qualifying features	• 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* • Dunes with creeping willow • Great crested newt
SSSIs within the site	Duddon Estuary South Walney and Piel Channel Flats Morecambe Bay
Comments on Nature Conservation Importance and site vulnerabilities.	• This is the largest single area of continuous intertidal mudflats and sandflats in the UK and the best example of muddy sandflats on the west coast. At low tide vast areas of intertidal sandflats are exposed, with small areas of mudflat, particularly in the upper reaches of the associated estuaries. • Morecambe Bay supports exceptionally large beds of mussels on exposed 'scars' of boulder and cobble. There is a rich community of sponges and other associated fauna on tide-swept pebbles and cobbles at the southern end of Walney Channel • Sandscale Haws at the entrance to the Duddon Estuary supports the largest area of dune grassland in Cumbria. Several uncommon species including marsh helleborine, dune helleborine and coralroot orchid occur in the dune slacks • Breeding colonies of great-created newts are known from several ponds, foraging widely over foreshore, yellow dunes, dune-heath and scrub. There are a wide range of pressures on Morecambe Bay but the site is relatively robust and many of these pressures have only slight or local effects on its interests. The interests depend largely upon the coastal processes operating within the Bay, which have been affected historically by human activities including coastal protection and flood defence works. Opportunities to reverse coastal squeeze are being explored. The saltmarsh is traditionally grazed and is generally in favourable condition for its bird interest. Most of the saltmarsh is traditionally grazed and is utilised by breeding, wintering and migrating birds for feeding, roosting and nesting purposes. Positive management is being secured through NGO reserve management plans, English Nature's Site Management Statements and Coastal Wildlife Enhancement Scheme, the European Marine Site Management Schemes for the Duddon Estuary and Morecambe Bay, and the Duddon Estuary and Morecambe Bay Partnerships. These aim for sustainable use of the site, taking account of other potential threats including commercial fisheries, aggregate extraction, gas exploration, recreation and other activities.
Key	Conditions***not*** within Copeland's control:

Environmental Conditions to Support Site Integrity	• Maintain morphological equilibrium of the estuary, including sedimentation patterns • Appropriate grazing of saltmarsh communities • Maintain minimal impact of fishing, bait digging and dredging • High enough water table for dune slacks • Control of bracken/scrub • GCN require suitable foraging and refuge habitat; some ponds with water throughout the breeding/tadpole development season Conditionswithin Copeland's control: • Maintain temperature and salinity levels within natural range • No physical constraints to natural migration of mobile habitats such as dunes • Avoidance of pollution • Avoidance of nutrient enrichment • Avoidance of damaging levels of erosion from human activities • No increase in organic matter in sediments • No physical constraints to managed realignment if required in response to coastal squeeze • Control of invasive and/or non-native species • ponds with relatively unpolluted water of roughly neutral pH;
Air Quality Issues	The levels of SO_2, NH_3, ozone, acid deposition and NO sampled at the site do not cause any concern – they are well within the critical limits. However, there are issues with the levels of nitrogen deposition which are currently above the critical loads for over half the different habitats present (see Appendix 1 for details). There are a number of A roads in the vicinity (A595, A593, A590, A5084, A5093, A5092). Increased traffic as a result of any planned developments or site allocations will have to be taken into account in the HRA Screening Reports for any the Site Allocations DPD and Major Infrastructure Planning Applications.
Water Resource and Wastewater Treatment Issues	*Wastewater* – A project is currently underway in the Millom area to help to increase the capacity of the WwTW there and therefore prevent untreated water entering the Duddon Estuary part of the site. United Utilities have reported that the works will be able to accommodate the Core Strategy's planned growth for the area. *Water Resources* - There are currently no plans to source drinking water from South Copeland.
Possible impacts arising from the plan	• The nominated site for nuclear activity is Sellafield and therefore cooling water will be piped out some distance away from the Morecambe Bay site i.e. changes to temperature and salinity at this distance should be minimal. Potentially significant negative effects: • Proposed leisure and tourism uses mean that there is potential for increased visitor pressure. • Tidal and wave energy developments could have a significant negative impact. • Flood defence measures • Air, water and ground pollution • Introduction of non-native plant species in landscaping schemes • Water contamination can result from rain water falling through air contaminated with car fumes or industrial emissions and therefore any increase in these particulates/gases could cause an increase in water pollution. An increase in housing and employment development anywhere in the borough could contribute to an increase in air pollution over the site.
Source	Extra housing leading to an increase in amount of sewage

Pathway **Impact**	*Existing Wastewater treatment plants discharging untreated sewage into Morecambe Bay* **Decline in water quality posing risk to plant and animal species and contaminating land.** <u>Encouraging more tourists to the area will increase the amount of vehicular traffic and people walking on and near to the site.</u> **Physical damage to plants and habitats, erosion, litter accumulation etc.** <u>Increased tourism and access</u> could lead to <u>increased traffic movement</u> in the South Copeland/Mid Copeland area resulting in **more air pollution** that would *travel on the prevailing wind towards the site*. *Rain falling through polluted air* could lead to a small amount of **water pollution possibly affecting the health of important species.** <u>Increased amount of development in the plan area some of which will have planting schemes</u> *Creeping of non-native species across land towards the sensitive site.* **Competition with sensitive species leading to decline or extinction on the site.** <u>Development</u> immediately behind the coast leading to the need to **stop the natural movement of the dunes**
Policies that could potentially have a negative impact	The following policies could have a negative impact on the site: **ST1** – Support energy, economic and housing development as well as services and recreational facilities. **ST2 -** facilitate growth in the local economy and associated growth in demand for housing and services. Support for new nuclear generating capacity and essential infrastructure. **ST3** – In pursuit of economic regeneration and growth. **ER1** – Support for nuclear new build – whilst the operational phase should be reasonably clean with regards to emissions, the construction phase has the potential to have a negative impact. **ER2** – Support for renewable energy developments **ER3** – Identify sites for NNB construction workers accommodation, encourage development of new educational facilities. **ER4** – Allocating land for economic development over the plan period at a rate exceeding the take up rate of the past. **ER7** – Supporting the continued growth of Whitehaven. Encourage evening and night time uses. **ER8** – Enhancing the retail function of the town centre and improving the tourism offer. Developments should provide parking both for the development and the town centre, which could encourage more people to drive rather than take public transport. Conversion of vacant floors over shops into residential accommodation. Redrawing the town centre boundary to reflect the anticipated growth and development in the area. **ER9** – Town centre improvements will be encouraged in the Key Service Centres to attract more visitors. **ER10** – Expand tourism outside the Lake District boundaries. **ER11** – Supporting new and expanding employment sectors. Supporting the development of commercial units. **SS1** – Allocation of housing sites, renovation and improvement of existing housing stock, demolition and redevelopment schemes. **SS2** – Housing allocations to meet a baseline requirement of 230-300 dwellings per year.

	SS4 - Encouraging the provision of good quality services and facilities **T1** – Transport improvements including new Pow Beck Spine Road, new Eastern relief road, improvements to A595 and A5086. Better connections will be sought to the A66, M6, A595 etc. Parking strategy will set out guidance for incorporating car parking in new developments. **ENV1 -** Support for new flood defence measures to protect against both tidal and fluvial flooding in the borough, including appropriate land management as part of a catchment wide approach. **ENV2** – Support for energy generating developments which require a coastal location along the undeveloped coast. **ENV4** – Supporting proposals for heritage led regeneration. **ENV5 -** Development proposals, where necessary, will be required to include landscaping schemes that retain existing landscape features, reinforce local landscape character and mitigate against any adverse visual impact.
Policies that eradicate/lessen the risk posed	**ST1 –** Protect and enhance sites of nature conservation and biodiversity value. Encourage creation of new areas of green infrastructure. Ensure development minimises air, ground and water pollution. **ST2** – Growth should be concentrated in the settlements focussing the largest scale development in sustainable locations. **ST4 -** Development proposals should provide, or contribute to the provision of environmental requirements on or off site. **ER1** – The Council will work with partners to identify whether a high-level waste repository can be justified and that there are no negative impacts on, inter alia, the environment. The Council will seek to ensure that all investment in the nuclear sector is accompanied by financial or in-kind contributions to mitigate any potentially detrimental impacts. **ER2** – Support for renewable energy generating developments at locations which minimise environmental impacts so that they are within acceptable limits. **ER3** – Ensure that any new energy infrastructure minimises potential impacts on biodiversity. **ER6** – Presumption in favour of employment sites in sustainable locations. **ER10 -** Wherever possible tourism providers will be required to ensure that accommodation and attractions are well connected to other tourist destinations and amenities, particularly by public transport, walking and cycling. Locate new tourist accommodation, facilities and attractions where there is proven capacity for additional visitors to be accommodated without adverse environmental or amenity impacts. **T1** - The Council will support transport improvements that maximise accessibility for all modes of transport but particularly by foot, cycle and public transport. **T2 -** Developments which seek to extend or improve connectivity through existing and emerging telecommunications in all parts of the Borough will be supported (subject to appropriate safeguards) – minimising the need to travel. **ENV1** – Planting trees to control flood risk will have a positive impact on air quality **ENV3 -** Protecting and extending woodland habitat will have a positive impact on air quality. **ENV5**– On site mitigation to take place where the positive impacts of the development clearly outweigh the negative impact on the landscape. Encouraging green infrastructure will have a positive impact on air quality. **ENV6 -** Identifying potential for a community forest to the South and West of Egremont. A large number of trees planted in the borough would help to lower

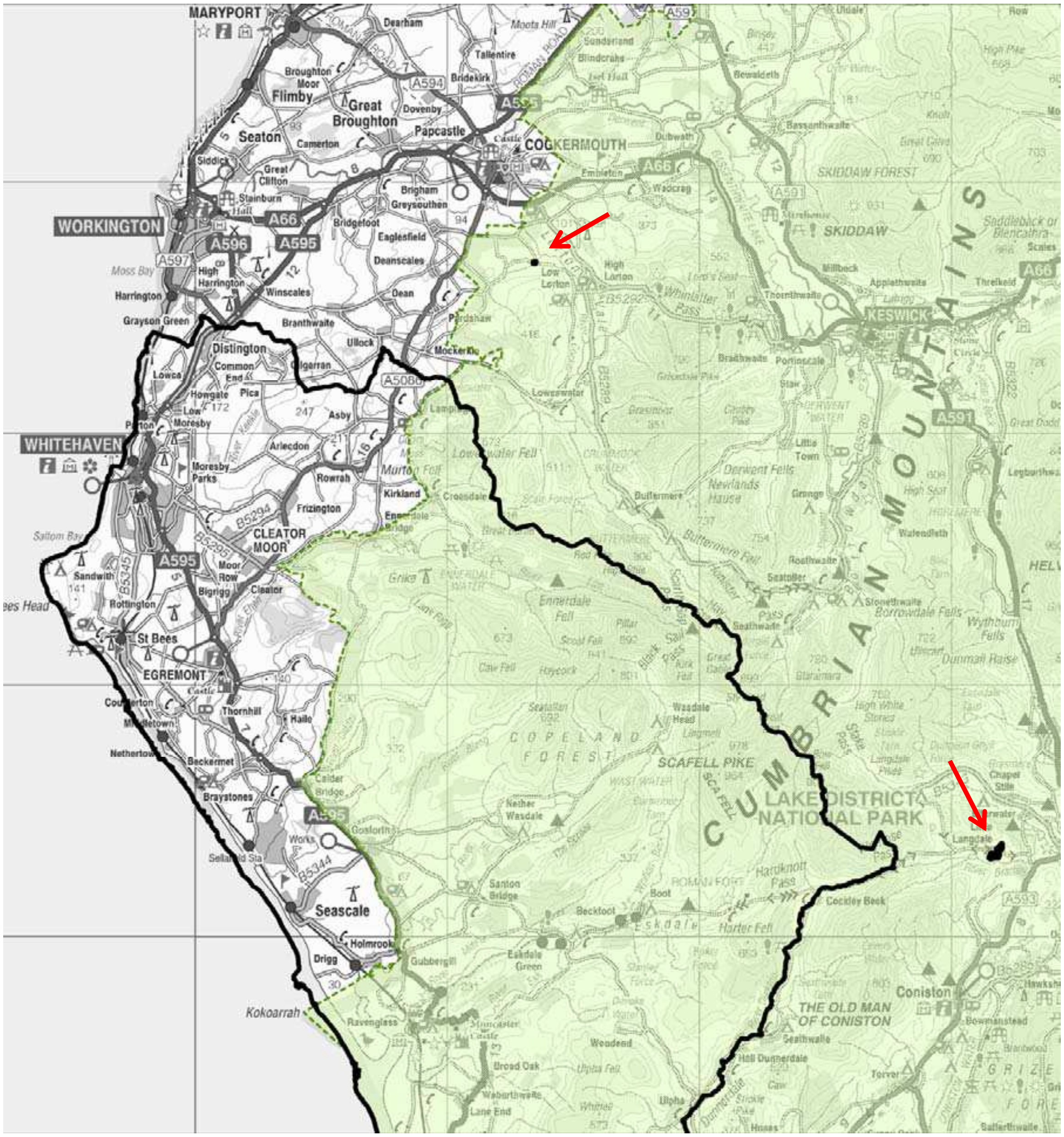
	the levels of pollution in the air over the longer term. **DM1 -** Proposals involving the use, storage and processing of radioactive material should include a strategy for the long term management and safety of the site and material. The Council and other Key stakeholders should be fully involved in any Environmental Assessment undertaken. The Council will seek an appropriately scoped, scales and phased package of community benefits to minimise the environmental impacts of the nuclear development. **DM2** – Renewable energy development will have no adverse impact on biodiversity. Proposals should be developed with key stakeholders (which will include biodiversity organisations). **DM5** – Proposals for any new nuclear facilities should be submitted with long term management plans that will minimise any harmful effects. **DM22 -** Where necessary the potential transport implications of development will be required to be supported by a Transport Assessment and a Travel Plan to manage any significant transport implications. **DM25 -** All development proposals must take into account any likely significant effects on the internationally important sites both within the borough and within a 20km radius of the borough boundary as well as those that are hydrologically linked to the development plan area. **DM26 -** Landscaping schemes will have to be submitted with all development proposals.
Is There a Risk of a Significant Effect?	Information given on the Natura 2000 form that was submitted as part of the designation process suggests that the site is very robust no doubt due to its size. There is the risk of a greater amount of diffuse air pollution over the site. However there are policies in the Core Strategy that encourage a greater amount of green infrastructure and sustainable transport options. It is considered that this document does all that it can at this very strategic level. Until more information is available i.e. at site allocations or project stage it will be very difficult to carry out an appropriate assessment. There is a risk that Wastewater Treatment Works will not be able to cope with the increased requirement but it is considered that policy ST4A deals adequately with this threat. Regarding the prevention of introduction of non-invasive species – there is probably scope for adding some words to the policy DM26 that allow conditions to be put on planning permissions that states that all species used in landscaping schemes must use plants that are native to that particular landscape. Trampling is an important issue when considering policies that encourage more people into any given area. ENV3F does, however, allow for planners to add conditions that will restrict access and usage of land where that would lead to trampling and disturbance of sensitive habitats and species. This should significantly lessen the risk of damage. A separate HRA screening report will be produced as part of the preparation of the Site Allocations DPD.
Possible Impacts Arising from Other Plans and Projects	• Gas exploration. • Morecambe Bridge proposals • Channel widening at Fleetwood associated with port development • ABP cruise terminal • BAE Systems aircraft carrier development at Barrow • Underground gas storage at Wyre Estuary (disposal of brine) • Windfarm cabling • Gateway gas storage (offshore)

	• Fleetwood Pier regeneration • BNFL shipping movements • Contamination from coastal collapse exposing estuarine waste sites • Shell Flats (Cirrus Array) windfarm, off Cleveleys • Stronger regulation of cockle and mussel fisheries • Coastal access proposals • Wildfowling • 2700 new homes planned for Barrow-in-Furness and 5500 new homes in Fylde. Regeneration of waterfront Barrow is a priority. Lancaster is also a main development locations; Ulverston, Grange-over-Sands, Milnthorpe and Carnforth are Key Services Centres where development will also be focused. • There are concerns over the ability for existing WwTW(s) discharging in to the site to provide the increased capacity required to support the growth proposed in the draft RSS. • Morecambe Bay falls within North West coast area of search for a regional park and parts of Morecambe Bay are planned to be part of it. A planned North West Coastal Trail would also pass nearby. Dependent on selection of area, and proposed uses (e.g. leisure, tourism) there is potential for increased visitor pressure. • Completion of the Heysham to M6 link road will mean increased traffic, and potential development leading to risk of air pollution and water pollution particularly to the River Lune during construction. • Policy W6 advocates tourism development adjacent to National parks and AONBs – this applies to this site and could lead to increased visitor pressure. • Port development at Fleetwood or Heysham and associated freight transport could create disturbance, land take, air and water pollution problems. • Tidal and wave energy proposals. • Coastal squeeze • Flood defence schemes • Expansion of activity at Blackpool Airport is unlikely to have a significant effect on the site. • The planned North West Coastal Trail would pass nearby. **Proposals within West Cumbria Masterplan**– Development of the Westlakes Research Institute at the Science and Technology Park. Development of the National Nuclear Skills Academy at Lillyhall, the Dalton Institute (lab facilities)at Westlakes, further investment in the employment sites at Leconfield and Bridgend. A 'health campus' on the current hospital site and new University of Cumbria facilities at Lillyhall. New National Nuclear Laboratory headquarters in West Cumbria. **North West RSS -** Drigg coast falls within North West coast area of search for a regional park and a planned North West Coastal Trail. There is potential for increased visitor pressure. **Allerdale LDF Core Strategy Issues and Options** – additional 267-350 dwellings per year (equating to an extra 4000-5250 dwellings over the plan period). Some limited housing development in rural local centres but mainly focused in more sustainable locations i.e. Workington, Maryport, Aspatria, Cockermouth, Wigton etc. **Lake District National Park Core Strategy** – 900 additional dwellings in the period to 2025 (50% in rural service centres, 20% in villages and 30% in clusters and the open countryside). There will be an additional 9.2ha of employment land and it is acknowledged that the Park needs one or more additional

	nationally significant visitor attractions. **Lake District National Park Site Allocations Preferred Options** – All employment land allocated will be in the Rural Service Centres. **Carlisle LDF Core Strategy Issues and Options** – Currently no policy direction offered. Carlisle has been designated as a growth point though so it can be reasonably expected that there will be a significant amount of additional housing and employment development over the plan period. **Eden Adopted Core Strategy** – Focus new build housing in Key and Local Service Centres whilst allowing for meeting essential needs in smaller settlements. The plan takes the RSS housing target of 239 additional dwellings per annum to 2025 (over 3100 units in total). 50ha of employment land will be made available to 2025. **Barrow Port Area Action Plan** – 925 additional dwellings in the Action Plan Area to 2021. Additional leisure facilities including marina and boat servicing area, Waterfront hotel, Water sports centre and very limited amount of retail. Improving access to the operational port from road and sea to support new opportunities to increase the proportion of freight moved by sea. Development of Waterfront Business Park as a major new business and employment location (24.5ha site). **South Lakeland LDF Core Strategy** – 55% of new housing and employment development will be in the Principal Service Centres, 13% in Key Service Centres, 21% in Local Service Centres and 11% in the smaller villages and hamlets. Housing target is 469 additional dwellings per year equating to nearly 6100 to 2025. 21ha of employment development to be accommodated in Kendal to 2025, 12ha to be accommodated in Ulverston and Furness but overall 4 ha of employment land will be allocated per annum between 2010 and 2025 equating to 60ha over the plan period. **Cumbria Local Transport Plan 3** – Support for the upgrading of the A595, A590, A5094 and A66 as well as any improvements needed to support growth in the low carbon energy sector. Increased bus services in rural areas. Improvement to the Cumbria West Coast Railway. Carlisle Northern Development Route will be completed in 2012. **Cumbria Minerals and Waste LDF Core Strategy** – no regional waste facilities to be located in Cumbria. At least one new waste facility will be needed in the south of the county. Proposes a decentralised network of waste facilities with a preference for sites which could accommodate more than one type of facility, for example, a Household Waste Recycling Centre and a Transfer/Bulking Station. This relates well to the Overall Strategy and Core Strategy Policy for minimising "waste miles". **Cumbria Minerals and Waste Site Allocations DPD** – Allocates sites for mineral working and waste facilities. The HRA for this document stated that there were 13 sites in the whole of the county that would require an Appropriate Assessment at project stage but that the policies themselves were unlikely to have negative effects on the integrity of any of the sites. The mitigation measures that are considered likely to be needed are common place and could form the conditions of the planning application. **Shoreline Management Plan 2** – In the Duddon Estuary area the approach is to maintain the line, where there are assets to protect, and to let the shore continue to erode where there are limited assets.
Is there risk of a significant effect	Probably – a HRA screening report will accompany the Site Allocations DPD which will contain more information on which an assessment might be based.

in combination?	

North Pennine Dales Meadows SAC



Name	North Pennine Dales Meadows (part)
Designation	SAC
Area (ha)	Sandybeck Meadow - 0.38ha and Wilson Place Meadows – 8.1ha
Qualifying features	The site encompasses the major part of the remaining UK mountain hay meadow resource in the UK and contains a wide range of rare and local meadow species including globeflower, several species of lady's-mantle, and spignel

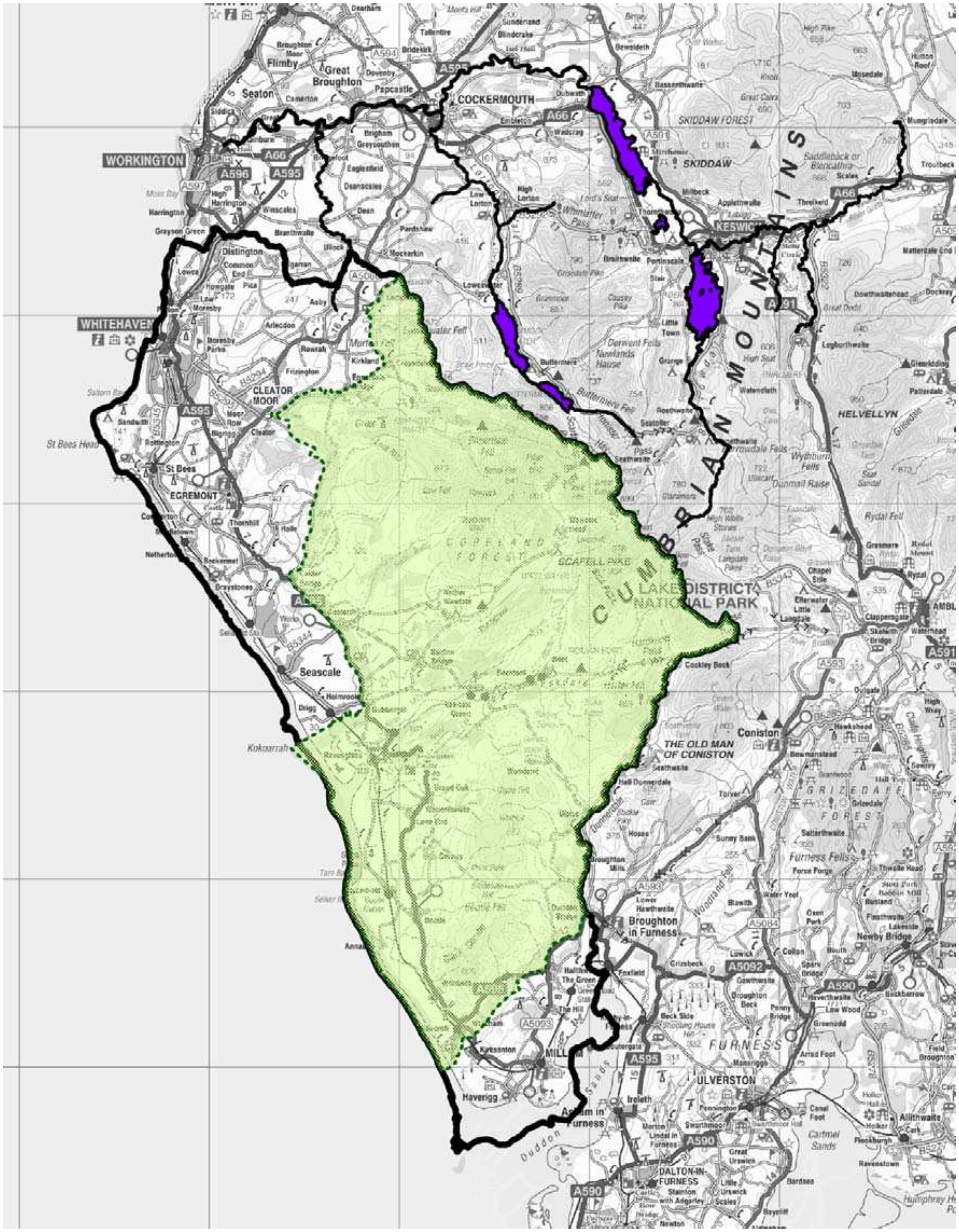
SSSIs within the site	Sandybeck Meadow Wilson Place Meadow
Comments on Nature Conservation Importance and vulnerabilities	This SAC is made up of 15 SSSIs, only two of which are within 20km of the Copeland plan area. These are: • Sandybeck - the only remaining area of traditionally managed grassland, completely surrounded by improved agricultural land. The main grassland community is dominated by sweet vernal-grass, crested dog's-tail and redfescue, but with an abundance of associated herbs including pignut, great burnet, yellow rattle,wood anemone, meadowsweet, betony, yarrow and ribwort plantain. Two more notable herbsfound in the community are common bistort Polygonumbistorta and greater butterfly-orchidPlatantherachlorantha. The major plant species of the wetter area are tufted hair-grass, reedcanary-grass, creeping bent, carnation sedge, meadowsweet, soft rush and jointed rush. Wilson Place Meadows - an important series of herb-rich grasslands found along, or near the floodplain of the River Brathay.No comparable example of traditionallymanaged haymeadow occurs in this area, the nearest being 23 km to the east. In a nationalcontext this is now a very rare habitat with an estimated three per cent, or less, left undamagedby modern farming techniques.
Key Environmental Conditions to Support Site Integrity	Conditions ***not*** within Copeland's control: • low intensity management of haymeadows (low nutrient input, annual hay cut controlled aftermathgrazing) • Appropriate grazing of purple moor-grass meadows Conditions within Copeland's control: • Avoidance of atmospheric pollution
Air Quality Issues	The levels of SO_2, NH_3, ozone, acid deposition and NO□ sampled at the site do not cause any concern. However, there are issues with the levels of nitrogen deposition which are currently above the critical loads for at least one of the habitats present (see Appendix 1 for details). One of the anthropogenic sources of nitrogen is motor vehicle emissions. Sandybeck is close to the moderately busy A5086 and Wilson Place Meadow is close to the A593 and A591. The HRA Screening Reports for the Site Allocations DPD and the nuclear industry's planning applications will have to consider whether traffic will increase significantly on these roads as a result of these developments.
Water Resource and Wastewater Treatment Issues	Wastewater – due to the terrain between the sites and the plan area it would be highly unlikely that wastewater from Copeland would contaminate the site. Wastewater getting on to the site would not harm it in any case. Water Resources – a drop in the water table is not mentioned a being a risk to the integrity of the sites.
Possible Impacts Arising from Plan	•Increased tourist vehicular traffic impacting on air quality – the prevailing wind is westerly/ south westerly so increases in traffic in the Millom area could have a detrimental effect.
Source *Pathway* **Impact**	Increased tourism and access could lead to increased traffic movement in the South Copeland/Mid Copeland area resulting in **more air pollution** that would travel on the *prevailing wind towards the site*.
Policies that could potentially have a negative impact	The following policies could increase the amount of atmospheric pollution and therefore impact negatively on this SAC: **ST1** – Support for energy, economic and housing growth as well as community facilities and leisure uses.

	ST2 – Increased amount of development **ST3**–Support for new nuclear development on the site adjacent to Sellafield (i.e. further away from the Drigg coast site than the current site.) **ER1 –** Construction phase of NNB will generate carbon emissions **ER3 –** Construction of Energy Coast Infrastructure will generate emissions **ER4 –** potential for increased air pollution if land uses include B2 **ER7** – Increased amount of development **ER8** – Providing more car parking in the town centre could encourage more people to drive rather than use public transport. **ER10** – Expand tourism outside the LDNP. **ER11 -** Supporting new and expanding employment sectors. Supporting the development of commercial units. **SS1 –** Increased amount of housing development **SS2 –** Increased amount of housing development **SS3 -** Increased amount of housing development **T1** – Road improvements that could encourage car use. **ENV2 -** Maximise opportunities along the undeveloped coast for tourism and outdoor recreation and support energy generating developments that require a coastal location.
Policies that eradicate/lessen the risk posed	**ST1 -** Ensure development minimises air pollution, minimise the need to travel **ST4 -** Policy will allow LPA to ask for measures to be put in place to protect air quality where this might be compromised in the operation of the development. **ER3** – Ensure that any new energy transmission infrastructure minimises potential impacts on biodiversity. **ER5** – Additional planting around existing industrial estates is likely to have a positive impact on air quality. **ER9 -** Protection of services within smaller centres will limit the amount of car travel to larger centres to access essential services. **SS5** – Protecting and enhancing green infrastructure will improve air quality **T1** – improved public transport network. **T2** – reducing the need to travel through supporting the provision of high quality broadband connections **ENV1** – Planting trees to control flood risk will have a positive impact on air quality **ENV3 -** Protecting and extending woodland habitat will have a positive impact on air quality. **ENV5**– On site mitigation to take place where the positive impacts of the development clearly outweigh the negative impact on the landscape. Encouraging green infrastructure will have a positive impact on air quality. **ENV6 -** The planting of a community forest would positively impact on the air quality in and beyond Copeland. **DM11** – Encouraging developers to achieve high standards of energy efficiency **DM12** – Provision of public green space in residential areas **DM24** – Protection and expansion of habitats i.e. green spaces leading to better air quality. **DM25** –All development proposals must take into account any likely significant effects on the internationally important sites both within the borough and within a 20km radius of the borough boundary as well as those that are hydrologically linked to the development plan area. **DM26 -** Landscaping schemes will have to be submitted with all development proposals.

Is There a Risk of a Significant Effect? There is a risk of an increase in diffuse air pollution.	There is the risk of a greater amount of diffuse air pollution. However there are policies in the Core Strategy that encourage a greater amount of green infrastructure and sustainable transport options. It is considered that this document does all that it can at a very strategic level. Until more information is available i.e. at site allocations or project stage it will be very difficult to carry out an appropriate assessment. A separate HRA screening report will be produced as part of the preparation of the Site Allocations DPD.
Possible Impacts Arising from Other Plans and Projects	• Development at Barrow-in-Furness, Duddon-in-Furness, Ulverston and especially Millom could increase traffic on the A5092 with potential air quality implications. • Any improvements to the A5092 risk hydrological, water quality and air quality effects, especially during construction. • Duddon Mosses fall within North West coast area of search for a regional park and a planned North West Coastal Trail. Dependent on selection of area, and proposed uses (e.g. leisure, tourism) there is potential for increased visitor pressure. The Cumbria Coastal Way already passes through the site. **Proposals within West Cumbria Masterplan**– Development of the Westlakes Research Institute at the Science and Technology Park. Development of the National Nuclear Skills Academy at Lillyhall, the Dalton Institute (lab facilities)at Westlakes, further investment in the employment sites at Leconfield and Bridgend. A 'health campus' on the current hospital site and new University of Cumbria facilities at Lillyhall. New National Nuclear Laboratory headquarters in West Cumbria. **North West RSS -** Drigg coast falls within North West coast area of search for a regional park and a planned North West Coastal Trail. There is potential for increased visitor pressure. **Allerdale LDF Core Strategy Issues and Options** – additional 267-350 dwellings per year (equating to an extra 4000-5250 dwellings over the plan period). Some limited housing development in rural local centres but mainly focused in more sustainable locations i.e. Workington, Maryport, Aspatria, Cockermouth, Wigton etc. **Lake District National Park Core Strategy** – 900 additional dwellings in the period to 2025 (50% in rural service centres, 20% in villages and 30% in clusters and the open countryside). There will be an additional 9.2ha of employment land and it is acknowledged that the Park needs one or more additional nationally significant visitor attractions. **Lake District National Park Site Allocations Preferred Options** – All employment land allocated will be in the Rural Service Centres. Duddon Mosses SAC falls into the South Distinctive Area which will accommodate 14% of all development in the LDNP. **Carlisle LDF Core Strategy Issues and Options** – Currently no policy direction offered. Carlisle has been designated as a growth point though so it can be reasonably expected that there will be a significant amount of additional housing and employment development over the plan period. **Eden Adopted Core Strategy** – Focus new build housing in Key and Local Service Centres whilst allowing for meeting essential needs in smaller settlements. The plan takes the RSS housing target of 239 additional dwellings per annum to 2025 (over 3100 units in total). 50ha of employment land will be made available to 2025. **Barrow Port Area Action Plan** – 925 additional dwellings in the Action Plan Area

	to 2021. Additional leisure facilities including marina and boat servicing area, Waterfront hotel, Water sports centre and very limited amount of retail. Improving access to the operational port from road and sea to support new opportunities to increase the proportion of freight moved by sea. Development of Waterfront Business Park as a major new business and employment location (24.5ha site). **South Lakeland LDF Core Strategy** – 55% of new housing and employment development will be in the Principal Service Centres, 13% in Key Service Centres, 21% in Local Service Centres and 11% in the smaller villages and hamlets. Housing target is 469 additional dwellings per year equating to nearly 6100 to 2025. 21ha of employment development to be accommodated in Kendal to 2025, 12ha to be accommodated in Ulverston and Furness but overall 4 ha of employment land will be allocated per annum between 2010 and 2025 equating to 60ha over the plan period. **Cumbria Local Transport Plan 3** – Support for the upgrading of the A595, A590, A5094 and A66 as well as any improvements needed to support growth in the low carbon energy sector. Increased bus services in rural areas. Improvement to the Cumbria West Coast Railway. Carlisle Northern Development Route will be completed in 2012. **Cumbria Minerals and Waste LDF Core Strategy** – no regional waste facilities to be located in Cumbria. At least one new waste facility will be needed in the south of the county. Proposes a decentralised network of waste facilities with a preference for sites which could accommodate more than one type of facility, for example, a Household Waste Recycling Centre and a Transfer/Bulking Station. This relates well to the Overall Strategy and Core Strategy Policy for minimising "waste miles". **Cumbria Minerals and Waste Site Allocations DPD** – Allocates sites for mineral working and waste facilities. The HRA for this document stated that there were 13 sites in the whole of the county that would require an Appropriate Assessment at project stage but that the policies themselves were unlikely to have negative effects on the integrity of any of the sites. The mitigation measures that are considered likely to be needed are common place and could form the conditions of the planning application. **Shoreline Management Plan 2** – In the Duddon Estuary area the approach is to maintain the line, where there are assets to protect, and to let the shore continue to erode where there are limited assets.
Is there risk of a significant effect in combination?	As all of the above plans are planning for a greater amount of development in each of the plan areas it is likely that there could be a significant effect on the integrity of the site. A separate HRA screening report will be prepared in tandem with the Site Allocations DPD.

River Derwent and Bassenthwaite Lake SAC



Name	River Derwent and Bassenthwaite Lake
Designation	SAC

Area (ha)	1832.96
Qualifying features	• Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels • Rivers with floating vegetation often dominated by water-crowfoot • Marsh fritillary butterfly • Sea lamprey • Brook lamprey • River lamprey • Atlantic salmon • Otter • Floating water-plantain
SSSIs within the site	Bassenthwaite Lake Braithwaite Moss River Derwent and Tributaries Buttermere
Comments on Nature Conservation Importance and site vulnerabilities	• Bassenthwaite Lake is an example of a mesotrophic waterbody, an unusual type in mountain areas. It is a large lake with an extensive catchment area and consequently is subject to rapid through-flow of water and moderate nutrient status. • Much of the shore is of shingle or gravel, but soft peat has accumulated around Bowness Bay. • The lake supports one of only two surviving UK populations of the vendace, the other population being at Derwent Water. • This site supports the largest area of appropriate marsh fritillary habitat in Cumbria. • Healthy populations of sea, brook and river lamprey, otter, floating water plantain and Atlantic salmon are present. The wildlife of the River Derwent system is dependent upon the maintenance of high water quality, particularly its naturally low level of nutrients. There are problems with sewage, acidification (from rainfall) and pollution with synthetic pyrethroid sheep dips (leading to losses of insect life, the food of the Annex II fish species). Flow regimes and sedimentation patterns in the rivers are important, not least in providing suitable spawning grounds for fish. These are affected by flood defence works and abstraction for water supplies. The management of the land in the catchment is also important. Much of the land is heavily drained for agriculture or forestry, which results in increased run-off. As many of the surrounding hills are ecologically overgrazed, soil erosion can cause high sediment loads in the streams and river entering the lakes. Sediment and nutrients from such sources, as well as possibly point sources, have affected plant communities in the lakes. Phosphorous stripping is being undertaken on part of the site, although it is expected that full recovery may take a decade or more.
Key Environmental Conditions to Support Site Integrity	Conditions ***not*** within Copeland's control • Avoidance of water pollution (e.g. sheep dip) • Maintenance of sufficient flow (the site is sensitive to changes in water flow, with a pattern of rapid drawdown and rapid recovery) • Maintenance of natural course of river • Avoidance of nutrient enrichment (tributaries are particularly sensitive to water quality issues e.g. River Marron is very close to acceptable phosphate limits)

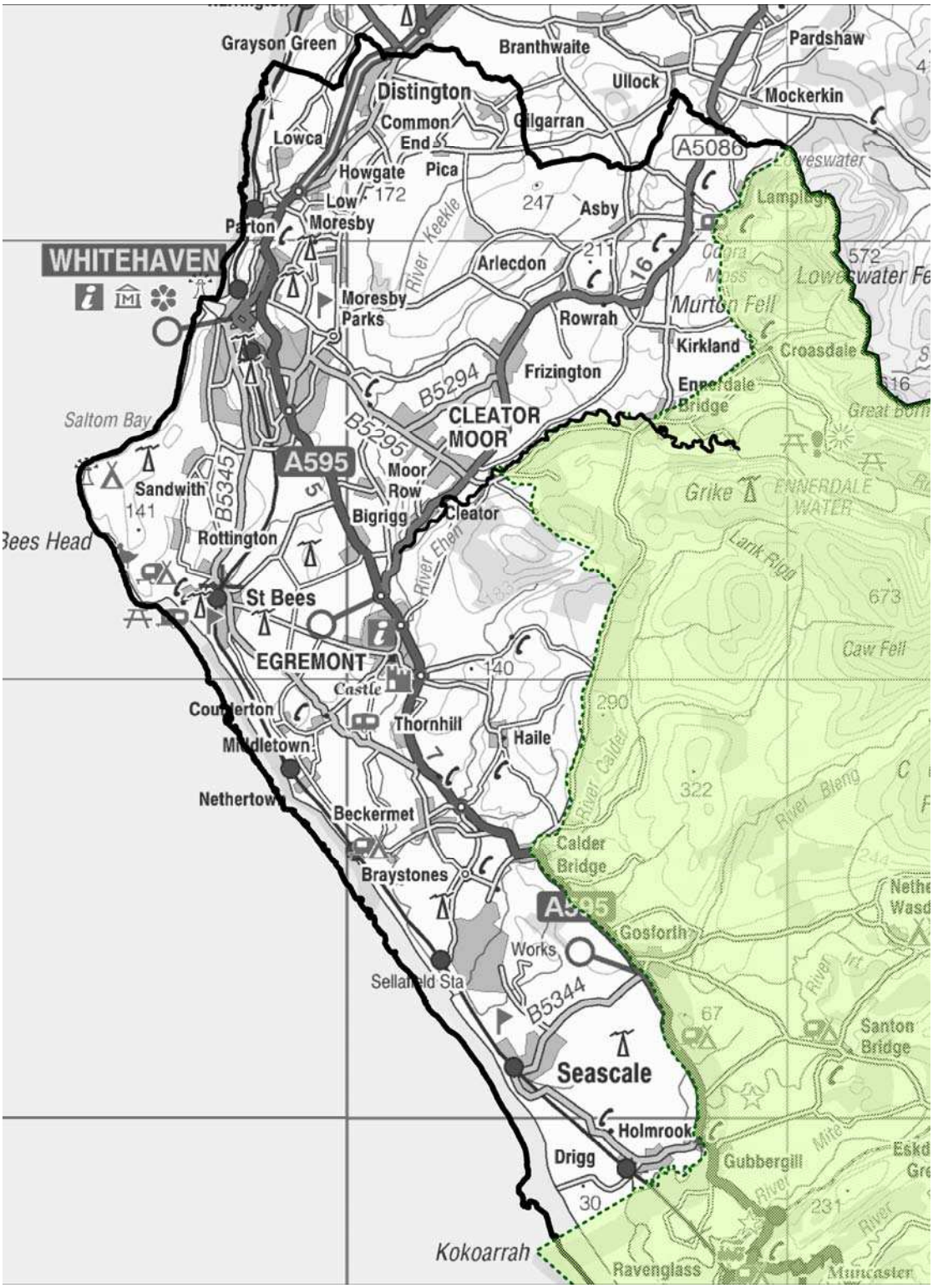
	• Devil's bit scabious – the larval food plant of marsh fritillary. • Marsh fritillary requires low intensity grazing (preferably ponies or cattle as sheep damage the host plant) • Avoidance of mowing and burning in areas of butterfly colonies • Maintenance of all populations of marsh fritillary – linked populations are critical for this species • Good weather conditions in flight period of butterfly • Control of angling/netting • Clean gravel/hard rock substrate in some areas, silt and sand in others • Low suspended solids (less than 10 mg/l) • Sufficient bankside breeding, foraging and resting habitat for otters (e.g. cover, sites for holts) • Maintenance of summer lake levels • Some areas of overhanging vegetation, cover and still water used by fish Conditions within Copeland's control • Avoidance of disturbance to otter • Control of invasive +/or non-native species • No physical barriers to fish migration or otter movement
Air Quality Issues	As this is an aquatic environment there was no data available for air pollutants. The site has a number of fish species that are noted as qualifying features. Acid deposition can have a negative effect on the fish in the early stages in their lives. The reading for acidification on this site is 3.11 keq/ha/year.Motor vehicle emissions are a contributing factor. Therefore the potential for increased traffic on the A66, A595 and A591 arising from potential developments will have to be considered in the HRA Screening Reports accompanying the Site Allocations DPD and the nuclear and grid planning applications.
Water Resource and Wastewater Treatment Issues	*Wastewater*: The topography between the areas where there is concern about the capacity of the treatment works i.e. Whitehaven and Cleator Moor and the site would not allow sewage contaminationto occur. *Water Resources*: Drinking water for Copeland is sourced from Ennerdale Water and a number of new boreholes that have been recently drilled south of Egremont. There are no plans to take water from the SAC in the future.
Possible Impacts Arising from Plan	• Current over-abstraction could be exacerbated by need to provide water needs of new homes (where does Copeland water come from? – Mostly Ennerdale and United Utilities decided to drill boreholes in the fields south of Egremont rather than abstract water from another lake.) • Due to the terrain between the plan area and Bassenthwaite Lake and the River Derwent it is unlikely that any waterborne pollutants would travel to this watercourse from the plan area. There is a small part of the River Marron in a very rural part of the plan area (near Asby) and any pollution is likely to be agricultural and not under the control of Copeland planning. • As no part of the SAC is in the Copeland Plan area Copeland will not be able to permit development that would disrupt the flow of the river in any way. • As no part of the SAC is in the Copeland Plan area Copeland will not be able to permit development that would disrupt the flow of the river in any way. Potentially significant negative impacts • Invasive species could be a problem if proper controls are not in place to ensure that planting is of native, non-invasive species • An increase in tourism in the borough may encourage more tourists to this area that is quite close to the borough boundary and this could disturb otters,

	lead to more fishing activity etc.
Source Pathway Impact	Increased amount of development in the plan area some of which will have planting schemes *Creeping of non-native species across land towards the sensitive site.* **Competition with sensitive species leading to decline or extinction on the site.** Encouraging more tourists to the area will increase the amount of vehicular traffic and people walking on and near to the site. **Physical damage to habitats, erosion, litter accumulation, disturbance to otters etc.**
Policies that could potentially have a negative impact	**ER10 –** Expand tourism outside the Lake District National Park boundaries **SS1** - Promoting the renovation and improvement of the Borough's existing housing stock, and the enhancement of the surrounding residential environment. **SS5 -** Promoting the establishment, improvement and protection of green infrastructure networks connecting open spaces with each other and with the countryside. **ENV5** - ensuring that the impact of the development on the landscape is minimised through adequate mitigation, preferably on-site **DM26 -** Development proposals, where necessary, will be required to include landscaping schemes that retain existing landscape features, reinforce local landscape character and mitigate against any adverse visual impact.
Policies that eradicate/lessen the risk posed	**ER10 -** Locate new tourist accommodation, facilities and attractions where there is proven capacity for additional visitors to be accommodated without adverse environmental or amenity impacts **ENV3 -** Improve the condition of internationally, nationally and locally designated sites; Ensure that development incorporates measures to protect, enhance and build on any biodiversity interest; Boost the biodiversity value of existing wildlife corridors and create new corridors to develop a functional Ecological Network. **DM25 -** All development proposals should: Protect the biodiversity value of land and buildings; All development proposals must take into account any likely significant effects on the internationally important sites both within the borough and within a 20km radius of the borough boundary as well as those that are hydrologically linked to the development plan area.
Is There a Risk of a Significant Effect?	Regarding the prevention of introduction of non-invasive species – there is probably scope for adding some words to the policy DM26 that allow conditions to be put on planning permissions that states that all species used in landscaping schemes must use plants that are native to that particular landscape. Trampling is an important issue when considering policies that encourage more people into any given area. ENV3F does, however, allow for planners to add conditions that will restrict access and usage of land where that would lead to trampling and disturbance of sensitive habitats and species. This should significantly lessen the risk of damage. There could be a risk that Wastewater Treatment Works will not be able to cope with the increased requirement but it is considered that policy ST4A deals adequately with this threat.
Possible Impacts Arising from Other Plans and Projects	• Water resource needs will also result from development in other regions • Tourists come from other regions • Pressure for channel modifications associated with strengthened flood defences • Current over-abstraction could be exacerbated by need to provide water needs

	of new homes, as well as regional casinos and airports. • Risk of water quality issues from waste-water treatment works required to support increased population in Keswick and Cockermouth, along with visitors (already an issue), along with intermittent discharges resulting from limited drainage catchment capacity. • Workington, where the Derwent meets the sea, is earmarked for port and town redevelopment. The works could affect flow and course of part of the river, with consequences for migratory fish. • Risk of development causing disturbance to contaminated land, e.g. at Cockermouth, Workington, around Derwent Water, • Risk of disturbance from any increase in recreational use of the river and/or lake. • Any improvements to the A66 could cause pollution to the river and Bassenthwaite Lake and could increase bridge crossings. **Proposals within West Cumbria Masterplan**– Development of the Westlakes Research Institute at the Science and Technology Park. Development of the National Nuclear Skills Academy at Lillyhall, the Dalton Institute (lab facilities)at Westlakes, further investment in the employment sites at Leconfield and Bridgend. A 'health campus' on the current hospital site and new University of Cumbria facilities at Lillyhall. New National Nuclear Laboratory headquarters in West Cumbria. **North West RSS -** Drigg coast falls within North West coast area of search for a regional park and a planned North West Coastal Trail. There is potential for increased visitor pressure. **Allerdale LDF Core Strategy Issues and Options** – additional 267**-**350 dwellings per year (equating to an extra 4000**-**5250 dwellings over the plan period). Some limited housing development in rural local centres but mainly focused in more sustainable locations i.e. Workington, Maryport, Aspatria, Cockermouth, Wigton etc. **Lake District National Park Core Strategy** – 900 additional dwellings in the period to 2025 (50% in rural service centres, 20% in villages and 30% in clusters and the open countryside). There will be an additional 9.2ha of employment land and it is acknowledged that the Park needs one or more additional nationally significant visitor attractions. **Lake District National Park Site Allocations Preferred Options** – All employment land allocated will be in the Rural Service Centres. River Derwent and Bassenthwaite Lake SAC falls into the North West Distinctive Area which will accommodate 25% of all development in the LDNP. **Carlisle LDF Core Strategy Issues and Options** – Currently no policy direction offered. Carlisle has been designated as a growth point though so it can be reasonably expected that there will be a significant amount of additional housing and employment development over the plan period. **Eden Adopted Core Strategy** – Focus new build housing in Key and Local Service Centres whilst allowing for meeting essential needs in smaller settlements. The plan takes the RSS housing target of 239 additional dwellings per annum to 2025 (over 3100 units in total). 50ha of employment land will be made available to 2025. **Barrow Port Area Action Plan** – 925 additional dwellings in the Action Plan Area to 2021. Additional leisure facilities including marina and boat servicing area, Waterfront hotel, Water sports centre and very limited amount of retail. Improving access to the operational port from road and sea to support new

	opportunities to increase the proportion of freight moved by sea. Development of Waterfront Business Park as a major new business and employment location (24.5ha site). **South Lakeland LDF Core Strategy** – 55% of new housing and employment development will be in the Principal Service Centres, 13% in Key Service Centres, 21% in Local Service Centres and 11% in the smaller villages and hamlets. Housing target is 469 additional dwellings per year equating to nearly 6100 to 2025. 21ha of employment development to be accommodated in Kendal to 2025, 12ha to be accommodated in Ulverston and Furness but overall 4 ha of employment land will be allocated per annum between 2010 and 2025 equating to 60ha over the plan period. **Cumbria Local Transport Plan 3** – Support for the upgrading of the A595, A590, A5094 and A66 as well as any improvements needed to support growth in the low carbon energy sector. Increased bus services in rural areas. Improvement to the Cumbria West Coast Railway. Carlisle Northern Development Route will be completed in 2012. **Cumbria Minerals and Waste LDF Core Strategy** – no regional waste facilities to be located in Cumbria. At least one new waste facility will be needed in the south of the county. Proposes a decentralised network of waste facilities with a preference for sites which could accommodate more than one type of facility, for example, a Household Waste Recycling Centre and a Transfer/Bulking Station. This relates well to the Overall Strategy and Core Strategy Policy for minimising "waste miles". **Cumbria Minerals and Waste Site Allocations DPD** – Allocates sites for mineral working and waste facilities. The HRA for this document stated that there were 13 sites in the whole of the county that would require an Appropriate Assessment at project stage but that the policies themselves were unlikely to have negative effects on the integrity of any of the sites. The mitigation measures that are considered likely to be needed are common place and could form the conditions of the planning application.
Is there risk of a significant effect in combination?	As all of the above plans are planning for a greater amount of development in each of the plan areas it is likely that there could be a significant effect on the integrity of the site. A separate HRA screening report will be prepared in tandem with the Site Allocations DPD.

River Ehen SAC



Name	River Ehen
Designation	SAC
Area (ha)	24.39

Qualifying features	• Freshwater pearl mussel • Atlantic salmon
SSSIs within the site	River Ehen (Ennerdale Water to Keekle Confluence)
Comments on Nature Conservation Importance and site vulnerabilities	The River Ehen supports the largest freshwater pearl mussel population in England. Exceptionally high densities (greater than 100 m2) are found at some locations, with population estimates for the entire river exceeding 100,000. The mussels are likely to be adversely affected by the apparent decline in salmonid fish populations and by major eutrophication of the river from sewage works and agricultural run-off. Water quality issues will be addressed through the review process under the Habitats Regulations and at a catchment level by local Environment Action Plans. Practices associated with sheep-dipping pose a potential threat at this site, and are currently under investigation. Further research is required to determine the extent of any problems arising from pearl fishing. Possible concerns over the flows within the river will also be addressed through reviews of abstraction licences where these are considered to be causing a problem.
Key Environmental Conditions to Support Site Integrity	Conditions ***not*** within Copeland's control • Avoidance of water pollution (e.g. sheep dip) • Control of angling/netting; no pearl mussel fishing • Controlled introductions of fish • Clean gravel/hard rock substrate in some areas, silt and sand in others Conditions within Copeland's control • Low suspended solids (less than 10 mg/l) • Cool, soft water, well oxygenated • Minimum disturbance to mussels by walking in river • Maintenance of sufficient flow • Maintenance of natural course of river • Avoidance of nutrient enrichment • Control of invasive +/or non-native species • No physical barriers to fish migration
Air Quality Issues	As this is an aquatic environment there was no critical load/level data available for air pollutants for this habitat. The site hosts Atlantic Salmon and their young are sensitive to acid deposition. The reading for acidification on this site is 1.37keq/ha/year. Acid deposition is known to arise from road traffic amongst other things. The A5086 runs very close to the SAC at its western end. The potential for an increase in traffic will have to be taken into account in the HRA Screening Reports for the Site Allocations DPD and planning applications for any nuclear or other major development.
Water Resource and Wastewater Treatment Issues	*Wastewater:*Cleator Moor Treatment Works is currently operating at restricted capacity and will not return to full capacity until the maintenance works are completed there in 2013. Ennerdale Bridge Treatment Works is not able to accommodate the planned growth at Ennerdale Bridge and Kirkland. (United Utilities has asked that developers consult them prior to submitting a planning application regarding the particular point of connection to the sewer network. They point out that it will not always be possible for this to be at the location which would create the shortest distance to the sewer. There may also need to be other infrastructure installed, such as holding tanks etc. and this may make the development less financially viable.

	Water Resources: There are no plans to abstract drinking water from the River Ehen or its catchment area.
Possible impacts arising from the plan	Potentially significant negative effects • West Cumbria is earmarked for major development in the Cumbria sub-regional plan. Whitehaven, Egremont and Cleator Moor are Key Services Centres. • The area south-east of Whitehaven is to be developed as a knowledge nucleus site with science park and tertiary education facilities. • Risk of over-abstraction from Ennerdale to provide water needs of new homes. • Risk of water quality issues from waste-water treatment works required to support increased population in Cleator Moor), along with intermittent discharges resulting from limited drainage catchment capacity. • Careless planting schemes could lead to invasive and non-native plant species being introduced to the landscape and these could creep towards the site over time.
Source *Pathway* **Impact**	Manmade obstruction in river e.g. hydropower technology or flood defences **Physical changes to the shape of the river effecting the hydrology and creating obstructions for migrating fish** Extra housing leading to an increase in amount of sewage *Existing Wastewater treatment plants discharging semi treated or untreated sewage into the river* **Decline in water quality posing significant risk to mussels and migrating fish.** Increased amount of development in the plan area some of which will have planting schemes *Creeping of non-native species across land towards the sensitive site.* **Competition with sensitive species leading to decline or extinction on the site.** Encouraging more tourists to the area will increase the number of people visiting the river and potentially fishing/walking in the river. **Physical damage to mussels, litter accumulation etc.**
Policies that could potentially have a negative impact	The following policies could have a negative impact on the SAC: **ST1** - Support the development of energy infrastructure, related economic clusters, rural diversification and tourism. Encourage development that minimises carbon emissions (i.e. renewable energy – could be hydroelectricity which could disrupt the flow of the river and present a physical barrier to migrating fish.) **ST2** - providing for and facilitating growth in the local economy, particularly in the energy sector, accompanied by net growth in jobs and an associated increase in demand for housing and services **ST3** – Site adj. to Sellafield, regeneration sites in Whitehaven Cleator Moor, Egremont and Millom are priorities for development. Developing the sites prioritised for development in the BECMP. **ER1** - Major nuclear energy-related expansion, including new generating capacity, at the selected preferred site immediately to the north of the Sellafield nuclear complex, is supported in principle. Accommodation of e any new reprocessing in the nuclear fuel cycle within existing Sellafield site boundaries will be supported in principle subject to a full and satisfactory safety case. **ER3 -** Identify potential requirements for temporary accommodation associated with the construction of additional energy generating capacity and associated infrastructure **ER4 -** Allocating land for economic development over the plan period at a rate ahead of that implied by projecting past take up rates, to allow a flexible response to emerging demand.

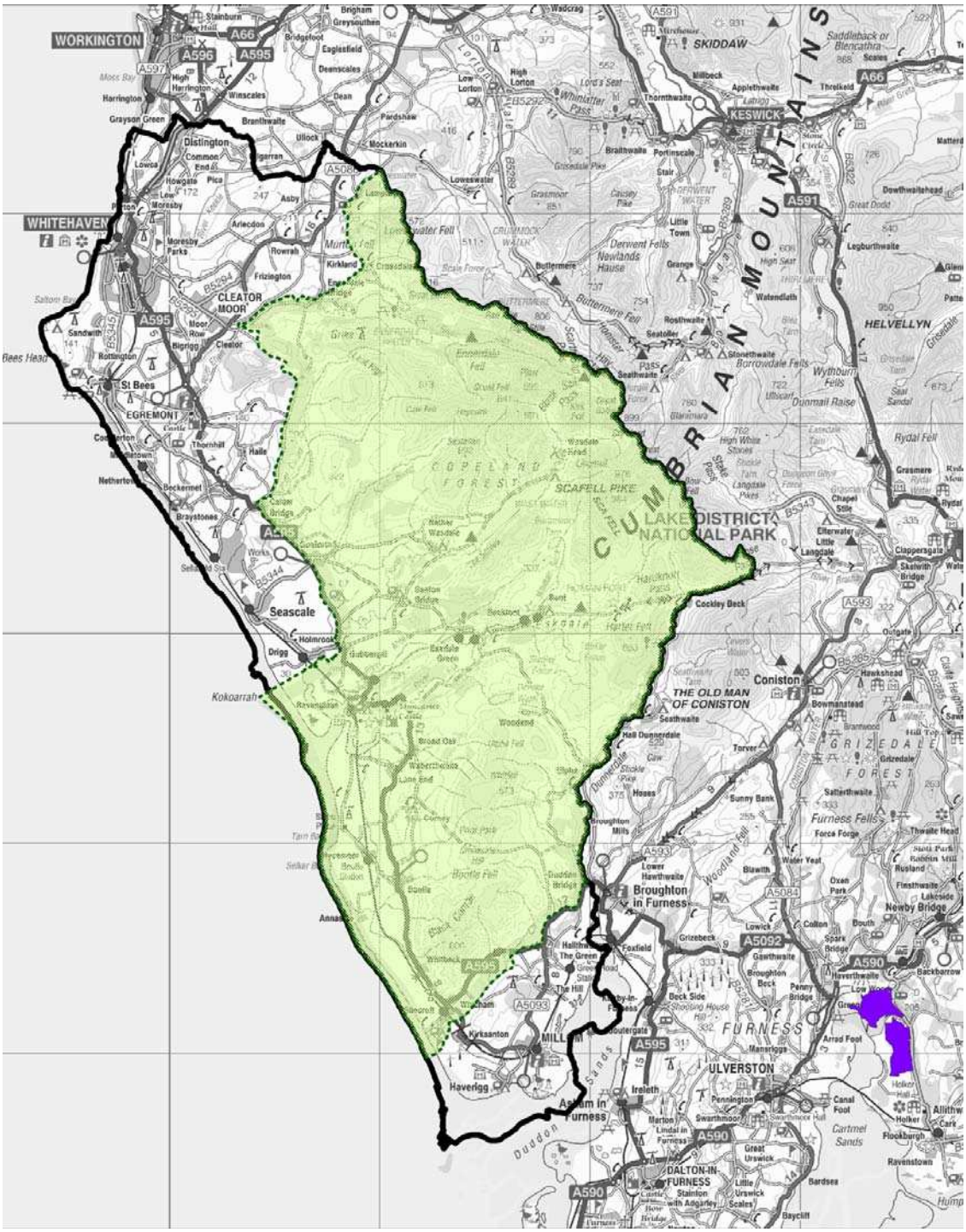
	ER10 - Expand tourism outside the Lake District National Park boundaries. **ER11** - Supporting the development of commercial units which meet the needs of businesses, encourage start-ups and promote further expansion. Encouraging the further development of Research and Development and education and training facilities at the Westlakes Science & Technology Park. Enhancing inward investment and promoting the diversification of the Borough's economy, working with partners to support new and expanding employment sectors **SS1 -** Allocating housing sites to meet local needs in locations attractive to house builders **SS2 -** Allocating sufficient land for new housing development to meet identified requirements within the Borough. Allocations will be made in accordance with the following housing targets: I. A baseline requirement, derived from projected household growth, of 230 dwellings per year ii. Provision for growth 30% above that, to 300 dwellings per year. **SS3 -** Establishing a supply of sites suitable for executive and high quality family housing, focusing on Whitehaven and its fringes as a priority and also giving particular attention to the three smaller towns. Providing housing for specific groups where there is housing need, including temporary workforce, agricultural workers and key workers **SS4** - increasing the provision of local community facilities, such as community centres, local sport and public open space in Local Centres and villages identified as needing them **T1 -** Priority will be given to improving the accessibility of the Borough's key development and regeneration sites, town and village centres, service, employment and transport hubs, and rural areas **ENV2 -** Promote the developed coast as a destination for leisure, culture and tourism, with strong links to Whitehaven Harbour / town centre in the north and to Millom in the south. Maximise opportunities along the undeveloped coast for tourism and outdoor recreation through support for the North West Coastal Trail and Colourful Coast projects **ENV6 -** Identifying opportunities to provide or improve access to the countryside on routes and gateways from settlements and to secure the implementation of improvement measures with key partners and developers. **DM26 -** Development proposals, where necessary, will be required to include landscaping schemes that retain existing landscape features, reinforce local landscape character and mitigate against any adverse visual impact.
Policies that eradicate/lessen the risk posed	**ST1 -** Focus development on sites that are at least risk from flooding (thereby cutting down on the amount of pollution and nutrients that enter the river). Protect and enhance areas, sites, species and features of nature conservation and biodiversity value, landscapes and the undeveloped coast. Ensure development minimises air, ground and water pollution. **ST4 -** Development proposals should provide, or contribute to the provision of environmental requirements either on or off site, as is reasonable and necessary to support and mitigate the impact of the development **ER1 -** In applying this policy the Council will seek to ensure that all investment in the nuclear sector is accompanied by appropriate financial or in kind contributions to mitigate any potentially detrimental impacts of development. **ER3 -** Ensure that any new energy transmission infrastructure minimises potential impacts on the Borough's biodiversity. Explore potential locations for accommodation which minimise potential impacts and where sites can be fully

	restored with uses that benefit the Borough; **ER10 -** Locate new tourist accommodation, facilities and attractions where there is proven capacity for additional visitors to be accommodated without adverse environmental impacts. **T1 –** improved public transport network. **T2** – reducing the need to travel through supporting the provision of high quality broadband connections **ENV1 -** Permitting new build development only on sites located outside areas at risk of flooding. Ensuring that new development does not contribute to increased surface water run-off through measures such as sustainable drainage systems, where these are practical. Where they are not this should be achieved by improvements to drainage capacity. **ENV2 -** Support energy generating developments that require a coastal location along the undeveloped coast, provided that the potential impacts on biodiversity is carefully assessed against the benefits. Where negative impacts are likely these must be mitigated against and compensated for **ENV3 -** Improve the condition of internationally, nationally and locally designated sites; Restrict access and usage where appropriate and necessary in order to conserve an area's biodiversity value. Protect and strengthen populations of priority or other protected species. **DM1** - Proposals involving the use, storage or processing of radioactive material should include a strategy for the construction and the long term management and safety of the site including the management of radioactive material **DM2** – Proposals for renewable energy development must not have unacceptable impacts on biodiversity. **DM5 -** Proposals for any new facilities are submitted with long term management plans to set out how operations will be co-ordinated to minimise any harmful effects **DM11** – Developments that ensure that surface water is managed appropriately, with the inclusion of sustainable drainage systems where possible will be supported (subject to other planning considerations of course). **DM22 –** Where necessary the potential transport implications of development will be required to be supported by a Transport Assessment and a Travel Plan to manage any significant transport implications. **DM24 -** Development will not be permitted where it is found that there is an unacceptable risk of flooding or the development would increase the risk of flooding elsewhere. **DM25 -** All development proposals must take into account any likely significant effects on the internationally important sites both within the borough and within a 20km radius of the borough boundary as well as those that are hydrologically linked to the development plan area.
Is There a Risk of a Significant Effect?	Regarding the prevention of introduction of non-invasive species – there is probably scope for adding some words to the policy DM26 that allow conditions to be put on planning permissions that states that all species used in landscaping schemes must use plants that are native to that particular landscape. There is a risk that Wastewater Treatment Works will not be able to cope with the increased requirement but it is considered that policy ST4A deals adequately with this threat. Trampling is an important issue when considering policies that encourage more people into any given area. ENV3F does, however, allow for planners to add conditions that will restrict access and usage of land where that would lead to

	trampling and disturbance of sensitive habitats and species. This should significantly lessen the risk of damage. Development causing an obstruction to the flow of water in the River Ehen would be considered to be a direct threat to the integrity of the site and policy DM25 would be used to refuse permission where the benefits of the development did not clearly outweigh the risk of damage to this very important site.
Possible Impacts Arising from Other Plans and Projects	**Proposals within West Cumbria Masterplan**– Development of the Westlakes Research Institute at the Science and Technology Park. Development of the National Nuclear Skills Academy at Lillyhall, the Dalton Institute (lab facilities)at Westlakes, further investment in the employment sites at Leconfield and Bridgend. A 'health campus' on the current hospital site and new University of Cumbria facilities at Lillyhall. New National Nuclear Laboratory headquarters in West Cumbria. **North West RSS -** Drigg coast falls within North West coast area of search for a regional park and a planned North West Coastal Trail. There is potential for increased visitor pressure. **Allerdale LDF Core Strategy Issues and Options** – additional 267-350 dwellings per year (equating to an extra 4000-5250 dwellings over the plan period). Some limited housing development in rural local centres but mainly focused in more sustainable locations i.e. Workington, Maryport, Aspatria, Cockermouth, Wigton etc. **Lake District National Park Core Strategy** – 900 additional dwellings in the period to 2025 (50% in rural service centres, 20% in villages and 30% in clusters and the open countryside). There will be an additional 9.2ha of employment land and it is acknowledged that the Park needs one or more additional nationally significant visitor attractions. **Lake District National Park Site Allocations Preferred Options** – All employment land allocated will be in the Rural Service Centres. River Ehen SAC falls into the West Distinctive Area which will accommodate 25% of all development in the LDNP. **Carlisle LDF Core Strategy Issues and Options** – Currently no policy direction offered. Carlisle has been designated as a growth point though so it can be reasonably expected that there will be a significant amount of additional housing and employment development over the plan period. **Eden Adopted Core Strategy** – Focus new build housing in Key and Local Service Centres whilst allowing for meeting essential needs in smaller settlements. The plan takes the RSS housing target of 239 additional dwellings per annum to 2025 (over 3100 units in total). 50ha of employment land will be made available to 2025. **Barrow Port Area Action Plan** – 925 additional dwellings in the Action Plan Area to 2021. Additional leisure facilities including marina and boat servicing area, Waterfront hotel, Water sports centre and very limited amount of retail. Improving access to the operational port from road and sea to support new opportunities to increase the proportion of freight moved by sea. Development of Waterfront Business Park as a major new business and employment location (24.5ha site). **South Lakeland LDF Core Strategy** – 55% of new housing and employment development will be in the Principal Service Centres, 13% in Key Service Centres, 21% in Local Service Centres and 11% in the smaller villages and hamlets. Housing target is 469 additional dwellings per year equating to nearly 6100 to 2025. 21ha of employment development to be accommodated in Kendal to 2025, 12ha to be

	accommodated in Ulverston and Furness but overall 4 ha of employment land will be allocated per annum between 2010 and 2025 equating to 60ha over the plan period. **Cumbria Local Transport Plan 3** – Support for the upgrading of the A595, A590, A5094 and A66 as well as any improvements needed to support growth in the low carbon energy sector. Increased bus services in rural areas. Improvement to the Cumbria West Coast Railway. Carlisle Northern Development Route will be completed in 2012. **Cumbria Minerals and Waste LDF Core Strategy** – no regional waste facilities to be located in Cumbria. At least one new waste facility will be needed in the south of the county. Proposes a decentralised network of waste facilities with a preference for sites which could accommodate more than one type of facility, for example, a Household Waste Recycling Centre and a Transfer/Bulking Station. This relates well to the Overall Strategy and Core Strategy Policy for minimising "waste miles". **Cumbria Minerals and Waste Site Allocations DPD** – Allocates sites for mineral working and waste facilities. The HRA for this document stated that there were 13 sites in the whole of the county that would require an Appropriate Assessment at project stage but that the policies themselves were unlikely to have negative effects on the integrity of any of the sites. The mitigation measures that are considered likely to be needed are common place and could form the conditions of the planning application.
Is there risk of a significant effect in combination?	The site is partly in Copeland and partly in the LDNP. There may be some potential for pollution arising from either plan. A separate HRA Screening Report will accompany the Copeland Site Allocations DPD.

Roudsea Wood and Mosses SAC



Name	Roudsea Wood and Mosses
Designation	SAC
Area (ha)	470.45
Qualifying features	• Active raised bogs* • Degraded raised bog

	• Mixed woodland on base-rich soils associated with rocky slopes* • Yew-dominated woodland*
SSSIs within the site	Roudsea Wood and Mosses
Comments on Nature Conservation Importance and site vulnerabilities	• Roudsea consists of a complex of raised bogs on the northern shore of Morecambe Bay. Although the majority of the complex has undergone extensive drainage in the past, with domestic peat-cutting around the margins, drainage was abandoned many years ago and much of the area has recovered to a considerable degree. A number of scarce plant species occur including the rare large yellow-sedge. • Less than 20% of the site is classified as degraded raised bog. • The rare fingered sedge is present in the mixed woodland on base-rich soils associated with rocky slopes. In the latter part of the 20th century, coppicing of the woodland ceased and lower water tables on the bogs, caused by drainage for peat-cutting, had allowed scrub to spread across them. Most of the site is now managed as a National Nature Reserve. Woodland management is carried out and much scrub has been cleared from Deer Dike Moss and ditches blocked to allow regeneration of the bog vegetation. Management of the southern bog, recently added to the National Nature Reserve, has been addressed in the management plan.
Key Environmental Conditions to Support Site Integrity	Conditions ***not*** within Copeland's control • Appropriate grazing • No burning • Maintenance of water levels and hydrological conditions • High rainfall and low evapotranspiration • Bracken and scrub control on bog • Appropriate woodland management Conditions within Copeland's control • Absence of nutrient enrichment • Absence of atmospheric pollution • Avoidance of erosion resulting from trampling, vehicles etc.
Air Quality Issues	The levels of SO_2 and NO□ sampled at the site do not cause any concern. However, there are issues with the levels of nitrogen deposition and with regards to the bog habitats, the readings for acid deposition are significantly above the critical load. The levels of ammonia are also very close to the critical levels for the bog areas. The A590 runs close to the north of the site. The potential for an increase in traffic will have to be taken into account in the HRA Screening Reports for the Site Allocations DPD and planning applications for any nuclear or other major development.
Water Resource and Wastewater Treatment Issues	*Wastewater:* United Utilities reports that there will be no problems accommodating the planned growth in the South Copeland locality i.e. Millom and Haverigg. *Water Resources:* There are currently no plans to source drinking water from South Copeland.
Possible impacts arising from the plan	With regards to nutrient enrichment – it is considered that the terrain between the SAC site and Copeland plan area would make the contamination of the site with raw sewage originating in Copeland very difficult. Potentially significant negative effects

	• West Cumbria is earmarked for major development in the Cumbria sub-regional plan. Whitehaven, Egremont and Cleator Moor are Key Services Centres. •Increased tourism and potentially a larger population using the area for leisure could lead to erosion issues.
Source *Pathway* **Impact**	Encouraging more tourists to the area will increase the amount of vehicular traffic and people walking on and near to the site. **Physical damage to habitats, erosion, litter accumulation, disturbance to sensitive species etc.** More development Increased tourism and access could lead to increased traffic movement in the South Copeland/Mid Copeland area resulting in **more air pollution** that would *travel on the prevailing wind towards the site.*
Policies that could potentially have a negative impact	The issues identified here would generally be exacerbated by an increased population, more development, increased vehicular travel and more visitors and residents using the site and surrounding area for leisure purposes. Therefore the following policies may have a negative impact on this site: **ST1** – supporting growth in terms of housing, employment, services and tourism. **ST2 -** providing for and facilitating growth in the local economy, particularly in the energy sector, accompanied by net growth in jobs and an associated increase in demand for housing and services **ST3** – Site adj. to Sellafield, regeneration sites in Whitehaven Cleator Moor, Egremont and Millom are priorities for development. Developing the sites prioritised for development in the BECMP. **ER1 -** Major nuclear energy-related expansion, including new generating capacity, at the selected preferred site immediately to the north of the Sellafield nuclear complex, is supported in principle. Accommodation of e any new reprocessing in the nuclear fuel cycle within existing Sellafield site boundaries will be supported in principle subject to a full and satisfactory safety case. **ER3 -** Identify potential requirements for temporary accommodation associated with the construction of additional energy generating capacity and associated infrastructure **ER4 -** Allocating land for economic development over the plan period at a rate ahead of that implied by projecting past take up rates, to allow a flexible response to emerging demand. **ER8 -** Providing more car parking in the town centre could encourage more people to drive rather than use public transport. **ER10** - Expand tourism outside the Lake District National Park boundaries. **ER11 -** Supporting the development of commercial units which meet the needs of businesses, encourage start-ups and promote further expansion. Encouraging the further development of Research and Development and education and training facilities at the Westlakes Science & Technology Park. Enhancing inward investment and promoting the diversification of the Borough's economy, working with partners to support new and expanding employment sectors **SS1** - Allocating housing sites to meet local needs in locations attractive to house builders **SS2 -** Allocating sufficient land for new housing development to meet identified requirements within the Borough. Allocations will be made in accordance with the following housing targets: i. A baseline requirement, derived from projected household growth, of 230 dwellings per year ii. Provision for growth 30% above that, to 300 dwellings per year.

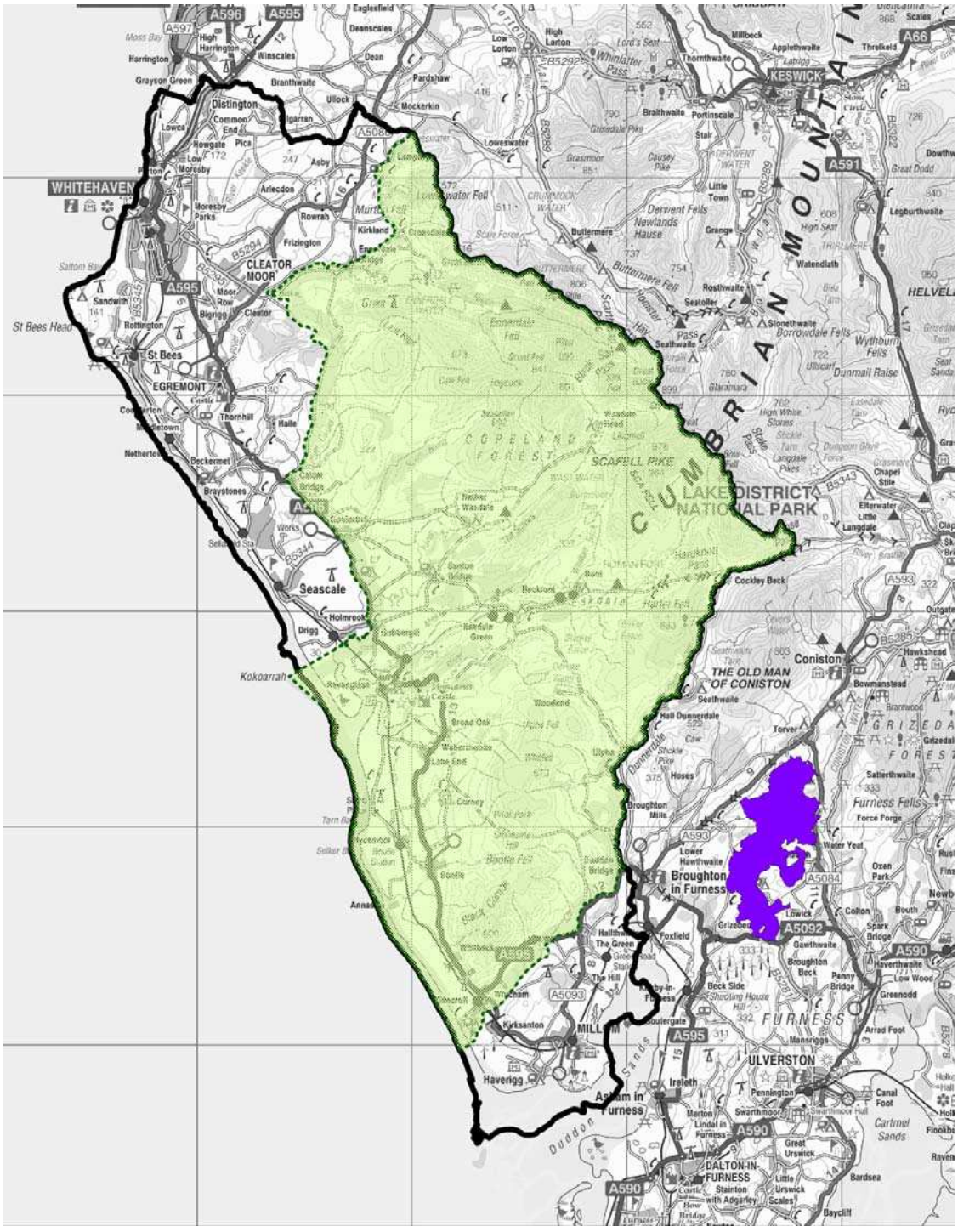
	SS3 - Establishing a supply of sites suitable for executive and high quality family housing, focusing on Whitehaven and its fringes as a priority and also giving particular attention to the three smaller towns. Providing housing for specific groups where there is housing need, including temporary workforce, agricultural workers and key workers **SS4 -** increasing the provision of local community facilities, such as community centres, local sport and public open space in Local Centres and villages identified as needing them **T1 -** Priority will be given to improving the accessibility of the Borough's key development and regeneration sites, town and village centres, service, employment and transport hubs, and rural areas **ENV2 -** Promote the developed coast as a destination for leisure, culture and tourism, with strong links to Whitehaven Harbour / town centre in the north and to Millom in the south. Maximise opportunities along the undeveloped coast for tourism and outdoor recreation through support for the North West Coastal Trail and Colourful Coast projects **ENV6 -** Identifying opportunities to provide or improve access to the countryside on routes and gateways from settlements and to secure the implementation of improvement measures with key partners and developers.
Policies that eradicate/lessen the risk posed	**ST1 -** Focus development on sites that are at least risk from flooding (thereby cutting down on the amount of pollution and nutrients that enter the river). Protect and enhance areas, sites, species and features of nature conservation and biodiversity value, landscapes and the undeveloped coast. Ensure development minimises air, ground and water pollution. **ST4** - Development proposals should provide, or contribute to the provision of environmental requirements either on or off site, as is reasonable and necessary to support and mitigate the impact of the development **ER1 -** In applying this policy the Council will seek to ensure that all investment in the nuclear sector is accompanied by appropriate financial or in kind contributions to mitigate any potentially detrimental impacts of development. **ER3 -** Ensure that any new energy transmission infrastructure minimises potential impacts on the Borough's biodiversity. Explore potential locations for accommodation which minimise potential impacts and where sites can be fully restored with uses that benefit the Borough; **ER10 -** Locate new tourist accommodation, facilities and attractions where there is proven capacity for additional visitors to be accommodated without adverse environmental impacts. **T1** – improved public transport network. **T2** – reducing the need to travel through supporting the provision of high quality broadband connections **ENV1** - Permitting new build development only on sites located outside areas at risk of flooding. Ensuring that new development does not contribute to increased surface water run-off through measures such as sustainable drainage systems, where these are practical. Where they are not this should be achieved by improvements to drainage capacity. **ENV2 -** Support energy generating developments that require a coastal location along the undeveloped coast, provided that the potential impacts on biodiversity is carefully assessed against the benefits. Where negative impacts are likely these must be mitigated against and compensated for **ENV3 -** Improve the condition of internationally, nationally and locally designated sites; Restrict access and usage where appropriate and necessary in

	order to conserve an area's biodiversity value. Protect and strengthen populations of priority or other protected species. **DM1 -** Proposals involving the use, storage or processing of radioactive material should include a strategy for the construction and the long term management and safety of the site including the management of radioactive material **DM2** – Proposals for renewable energy development must not have unacceptable impacts on biodiversity. **DM5 -** Proposals for any new facilities are submitted with long term management plans to set out how operations will be co-ordinated to minimise any harmful effects **DM11** – Developments that ensure that surface water is managed appropriately, with the inclusion of sustainable drainage systems where possible will be supported (subject to other planning considerations of course). **DM22** – Where necessary the potential transport implications of development will be required to be supported by a Transport Assessment and a Travel Plan to manage any significant transport implications. **DM24 -** Development will not be permitted where it is found that there is an unacceptable risk of flooding or the development would increase the risk of flooding elsewhere. **DM25 -** All development proposals must take into account any likely significant effects on the internationally important sites both within the borough and within a 20km radius of the borough boundary as well as those that are hydrologically linked to the development plan area. **DM26 -** Landscaping schemes will have to be submitted with all development proposals.
Is There a Risk of a Significant Effect?	There is the risk of a greater amount of diffuse air pollution. However there are policies in the Core Strategy that encourage a greater amount of green infrastructure and sustainable transport options. It is considered that this document does all that it can at a very strategic level. Until more information is available i.e. at site allocations or project stage it will be very difficult to carry out an appropriate assessment. Trampling is an important issue when considering policies that encourage more people into any given area. ENV3F does, however, allow for planners to add conditions that will restrict access and usage of land where that would lead to trampling and disturbance of sensitive habitats and species. This should significantly lessen the risk of damage. A separate HRA screening report will be produced as part of the preparation of the Site Allocations DPD.
Possible Impacts Arising from Other Plans and Projects	•Increased use of B5278 as a consequence of development at Grange-over-Sands could have air quality implications for the site. • Policy W6 advocates tourism development adjacent to National Parks and AONBs – this applies to this site and could lead to increased visitor pressure. • Morecambe Bay falls within North West coast area of search for a regional park and parts of Morecambe Bay are planned to be part of it. A North West Coastal Trail is also planned for the region. Dependent on selection of area, and proposed uses (e.g. leisure, tourism) there is potential for increased visitor pressure. **Proposals within West Cumbria Masterplan**– Development of the Westlakes Research Institute at the Science and Technology Park. Development of the National Nuclear Skills Academy at Lillyhall, the Dalton Institute (lab facilities)at Westlakes, further investment in the employment sites at Leconfield and

	Bridgend. A 'health campus' on the current hospital site and new University of Cumbria facilities at Lillyhall. New National Nuclear Laboratory headquarters in West Cumbria. **North West RSS -** Drigg coast falls within North West coast area of search for a regional park and a planned North West Coastal Trail. There is potential for increased visitor pressure. **Allerdale LDF Core Strategy Issues and Options** – additional 267-350 dwellings per year (equating to an extra 4000-5250 dwellings over the plan period). Some limited housing development in rural local centres but mainly focused in more sustainable locations i.e. Workington, Maryport, Aspatria, Cockermouth, Wigton etc. **Lake District National Park Core Strategy** – 900 additional dwellings in the period to 2025 (50% in rural service centres, 20% in villages and 30% in clusters and the open countryside). There will be an additional 9.2ha of employment land and it is acknowledged that the Park needs one or more additional nationally significant visitor attractions. **Lake District National Park Site Allocations Preferred Options** – All employment land allocated will be in the Rural Service Centres. Roudsea Wood and Mosses SAC falls into the South Distinctive Area, which will accommodate 14% of all development in the LDNP. **Carlisle LDF Core Strategy Issues and Options** – Currently no policy direction offered. Carlisle has been designated as a growth point though so it can be reasonably expected that there will be a significant amount of additional housing and employment development over the plan period. **Eden Adopted Core Strategy** – Focus new build housing in Key and Local Service Centres whilst allowing for meeting essential needs in smaller settlements. The plan takes the RSS housing target of 239 additional dwellings per annum to 2025 (over 3100 units in total). 50ha of employment land will be made available to 2025. **Barrow Port Area Action Plan** – 925 additional dwellings in the Action Plan Area to 2021. Additional leisure facilities including marina and boat servicing area, Waterfront hotel, Water sports centre and very limited amount of retail. Improving access to the operational port from road and sea to support new opportunities to increase the proportion of freight moved by sea. Development of Waterfront Business Park as a major new business and employment location (24.5ha site). **South Lakeland LDF Core Strategy** – 55% of new housing and employment development will be in the Principal Service Centres, 13% in Key Service Centres, 21% in Local Service Centres and 11% in the smaller villages and hamlets. Housing target is 469 additional dwellings per year equating to nearly 6100 to 2025. 21ha of employment development to be accommodated in Kendal to 2025, 12ha to be accommodated in Ulverston and Furness but overall 4 ha of employment land will be allocated per annum between 2010 and 2025 equating to 60ha over the plan period. **Cumbria Local Transport Plan 3** – Support for the upgrading of the A595, A590, A5094 and A66 as well as any improvements needed to support growth in the low carbon energy sector. Increased bus services in rural areas. Improvement to the Cumbria West Coast Railway. Carlisle Northern Development Route will be completed in 2012. **Cumbria Minerals and Waste LDF Core Strategy** – no regional waste facilities to be located in Cumbria. At least one new waste facility will be needed in the

	south of the county. Proposes a decentralised network of waste facilities with a preference for sites which could accommodate more than one type of facility, for example, a Household Waste Recycling Centre and a Transfer/Bulking Station. This relates well to the Overall Strategy and Core Strategy Policy for minimising "waste miles". **Cumbria Minerals and Waste Site Allocations DPD** – Allocates sites for mineral working and waste facilities. The HRA for this document stated that there were 13 sites in the whole of the county that would require an Appropriate Assessment at project stage but that the policies themselves were unlikely to have negative effects on the integrity of any of the sites. The mitigation measures that are considered likely to be needed are common place and could form the conditions of the planning application.
Is there risk of a significant effect in combination?	As all of the above plans are planning for a greater amount of development in each of the plan areas it is likely that there could be a significant effect on the integrity of the site. A separate HRA screening report will be prepared in tandem with the Site Allocations DPD.

Subberthwaite, Blawith & Torver Low Commons SAC



Name	Subberthwaite, Blawith & Torver Low Commons
Designation	SAC
Area (ha)	1865.17
Qualifying features	• Very wet mires often identified by an unstable 'quaking' surface • Depressions on peat substrates
SSSIs within the	Subberthwaite, Blawith & Torver Low Commons

site	
Comments on Nature Conservation Importance and site vulnerabilities	• This site supports some of the best examples of very wet mires often identified by an unstable 'quaking' surface in the UK, with over 200 mires on a broad hilly plateau. Twenty-six NVC types are represented. • The mires are set within an agriculturally improved landscape. This site comprises a complex mosaic of over 200 discrete mires set within an agriculturally unimproved landscape. The mires are at or near favourable condition and would only be threatened by intensification of land-use on the surrounding commons or by interference with the site hydrology. There is a good liaison with a commoners association over part of the site. Lowland heath is not listed as a SAC feature on the site because of its degraded, unfavourable condition. Heathland may be inhibited from recovery by the livestock management regime but at current livestock levels this is not believed to be affecting the mire interest.
Key Environmental Conditions to Support Site Integrity	Conditions ***not*** within Copeland's control • High rainfall and low evapotranspiration • Appropriate grazing • Control of scrub and bracken • Avoidance of damaging levels of erosion from trampling and vehicles Conditions within Copeland's control • Minimal atmospheric pollution • Maintain site hydrology including a high water table • Maintain nutrient poor and high base status of water
Air Quality Issues	The levels of SO_2, ozone and NO□ sampled at the site do not cause any concern. However, there are issues with the levels of nitrogen and acid deposition that are both significantly above the critical loads for this type of habitat (see Appendix 1 for details). The levels of ammonia are also very close to the critical levels for the bog habitats. The main roads in the area are the A595, A590, A593, A5092 and A5084. The potential for an increase in traffic will have to be taken into account in the HRA Screening Reports for the Site Allocations DPD and planning applications for any nuclear or other major development.
Water Resource and Wastewater Treatment Issues	*Wastewater* – United Utilities have reported that the Millom WwTW will be able to accommodate the planned growth in the area. *Water Resources* – There are no plans to abstract drinking water from South Copeland sources.
Possible impacts arising from the plan	• West Cumbria is earmarked for major development in the Cumbria sub-regional plan. Whitehaven, Egremont and Cleator Moor are Key Services Centres. • Increased tourism and potentially a larger population using the area for leisure could lead to erosion issues.
Source *Pathway* **Impact**	Encouraging more tourists to the area will increase the amount of vehicular traffic and people walking on and near to the site. **Physical damage to habitats, erosion, litter accumulation, disturbance to sensitive species etc.** More development Increased tourism and access could lead to increased traffic movement in the South Copeland/Mid Copeland area resulting in **more air pollution** that would *travel on the prevailing wind towards the site.*
Policies that could potentially have a negative	The required environmental conditions will be affected by an increased population, both resident and visitor and their transport and water requirements. An increased number of people using the area for leisure

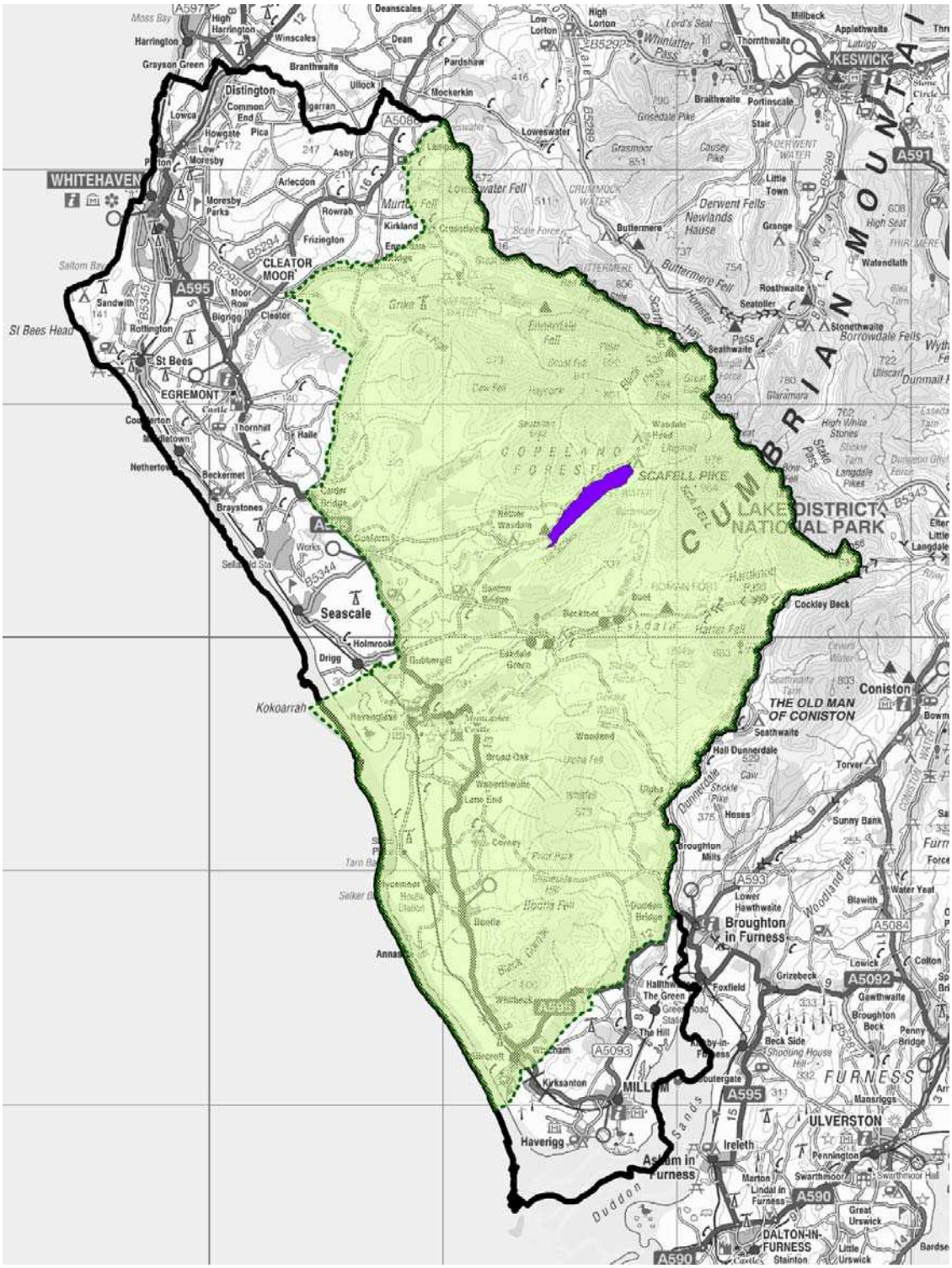
impact	purposes will also increase the likelihood of erosion and trampling problems. Therefore the following policies have the potential to affect the site negatively. **ST1** – supporting growth in terms of housing, employment, services and tourism. **ST2 -** providing for and facilitating growth in the local economy, particularly in the energy sector, accompanied by net growth in jobs and an associated increase in demand for housing and services **ST3** – Site adj. to Sellafield, regeneration sites in Whitehaven Cleator Moor, Egremont and Millom are priorities for development. Developing the sites prioritised for development in the BECMP. **ER1 -** Major nuclear energy**-**related expansion, including new generating capacity, at the selected preferred site immediately to the north of the Sellafield nuclear complex, is supported in principle. Accommodation of e any new reprocessing in the nuclear fuel cycle within existing Sellafield site boundaries will be supported in principle subject to a full and satisfactory safety case. **ER3** - Identify potential requirements for temporary accommodation associated with the construction of additional energy generating capacity and associated infrastructure **ER4** - Allocating land for economic development over the plan period at a rate ahead of that implied by projecting past take up rates, to allow a flexible response to emerging demand. **ER8** - Providing more car parking in the town centre could encourage more people to drive rather than use public transport. **ER10 -** Expand tourism outside the Lake District National Park boundaries. **ER11 -** Supporting the development of commercial units which meet the needs of businesses, encourage start**-**ups and promote further expansion. Encouraging the further development of Research and Development and education and training facilities at the Westlakes Science & Technology Park. Enhancing inward investment and promoting the diversification of the Borough's economy, working with partners to support new and expanding employment sectors **SS1** - Allocating housing sites to meet local needs in locations attractive to house builders **SS2 -** Allocating sufficient land for new housing development to meet identified requirements within the Borough. Allocations will be made in accordance with the following housing targets: i. A baseline requirement, derived from projected household growth, of 230 dwellings per year ii. Provision for growth 30% above that, to 300 dwellings per year. **SS3 -** Establishing a supply of sites suitable for executive and high quality family housing, focusing on Whitehaven and its fringes as a priority and also giving particular attention to the three smaller towns. Providing housing for specific groups where there is housing need, including temporary workforce, agricultural workers and key workers **SS4 -** increasing the provision of local community facilities, such as community centres, local sport and public open space in Local Centres and villages identified as needing them **T1 -** Priority will be given to improving the accessibility of the Borough's key development and regeneration sites, town and village centres, service, employment and transport hubs, and rural areas **ENV2 -** Promote the developed coast as a destination for leisure, culture and tourism, with strong links to Whitehaven Harbour / town centre in the north and to Millom in the south. Maximise opportunities along the undeveloped coast for

	tourism and outdoor recreation through support for the North West Coastal Trail and Colourful Coast projects **ENV6 -** Identifying opportunities to provide or improve access to the countryside on routes and gateways from settlements and to secure the implementation of improvement measures with key partners and developers.
Policies that eradicate/lessen the risk posed	**ST1** - Focus development on sites that are at least risk from flooding (thereby cutting down on the amount of pollution and nutrients that enter the river). Protect and enhance areas, sites, species and features of nature conservation and biodiversity value, landscapes and the undeveloped coast. Ensure development minimises air, ground and water pollution. **ST4 -** Development proposals should provide, or contribute to the provision of environmental requirements either on or off site, as is reasonable and necessary to support and mitigate the impact of the development **ER1 -** In applying this policy the Council will seek to ensure that all investment in the nuclear sector is accompanied by appropriate financial or in kind contributions to mitigate any potentially detrimental impacts of development. **ER3 -** Ensure that any new energy transmission infrastructure minimises potential impacts on the Borough's biodiversity. Explore potential locations for accommodation which minimise potential impacts and where sites can be fully restored with uses that benefit the Borough; **ER10 -** Locate new tourist accommodation, facilities and attractions where there is proven capacity for additional visitors to be accommodated without adverse environmental impacts. **T1** – improved public transport network. **T2** – reducing the need to travel through supporting the provision of high quality broadband connections **ENV1 -** Permitting new build development only on sites located outside areas at risk of flooding. Ensuring that new development does not contribute to increased surface water run**-**off through measures such as sustainable drainage systems, where these are practical. Where they are not this should be achieved by improvements to drainage capacity. **ENV2 -** Support energy generating developments that require a coastal location along the undeveloped coast, provided that the potential impacts on biodiversity is carefully assessed against the benefits. Where negative impacts are likely these must be mitigated against and compensated for **ENV3 -** Improve the condition of internationally, nationally and locally designated sites; Restrict access and usage where appropriate and necessary in order to conserve an area's biodiversity value (although in the case of this site, Copeland would have no control over this). Protect and strengthen populations of priority or other protected species. **DM1** - Proposals involving the use, storage or processing of radioactive material should include a strategy for the construction and the long term management and safety of the site including the management of radioactive material **DM2** – Proposals for renewable energy development must not have unacceptable impacts on biodiversity. DM5 **-** Proposals for any new facilities are submitted with long term management plans to set out how operations will be co**-**ordinated to minimise any harmful effects **DM11** – Developments that ensure that surface water is managed appropriately, with the inclusion of sustainable drainage systems where possible will be supported (subject to other planning considerations of course).

	DM22 – Where necessary the potential transport implications of development will be required to be supported by a Transport Assessment and a Travel Plan to manage any significant transport implications. **DM24 -** Development will not be permitted where it is found that there is an unacceptable risk of flooding or the development would increase the risk of flooding elsewhere. **DM25 -** All development proposals must take into account any likely significant effects on the internationally important sites both within the borough and within a 20km radius of the borough boundary as well as those that are hydrologically linked to the development plan area.
Is There a Risk of a Significant Effect?	There is the risk of a greater amount of diffuse air pollution. However there are policies in the Core Strategy that encourage a greater amount of green infrastructure and sustainable transport options. It is considered that this document does all that it can at a very strategic level. Until more information is available i.e. at site allocations or project stage it will be very difficult to carry out an appropriate assessment. Trampling is an important issue when considering policies that encourage more people into any given area. ENV3F does, however, allow for planners to add conditions that will restrict access and usage of land where that would lead to trampling and disturbance of sensitive habitats and species. This should significantly lessen the risk of damage. A separate HRA screening report will be produced as part of the preparation of the Site Allocations DPD.
Possible Impacts Arising from Other Plans and Projects	• Improved public transport access to the Lake District National Park has potential to increase tourism and recreational use of the area. • Site lies adjacent to A5084, close (c300m) to A593 and is crossed by several minor roads. It is therefore at risk of air pollution from any increase in traffic on these roads, as a consequence of increased visitors to the area and of economic growth in SW Cumbria (e.g. Millom, Ulverston etc). **Proposals within West Cumbria Masterplan**– Development of the Westlakes Research Institute at the Science and Technology Park. Development of the National Nuclear Skills Academy at Lillyhall, the Dalton Institute (lab facilities)at Westlakes, further investment in the employment sites at Leconfield and Bridgend. A 'health campus' on the current hospital site and new University of Cumbria facilities at Lillyhall. New National Nuclear Laboratory headquarters in West Cumbria. **North West RSS -** Drigg coast falls within North West coast area of search for a regional park and a planned North West Coastal Trail. There is potential for increased visitor pressure. **Allerdale LDF Core Strategy Issues and Options** – additional 267**-**350 dwellings per year (equating to an extra 4000**-**5250 dwellings over the plan period). Some limited housing development in rural local centres but mainly focused in more sustainable locations i.e. Workington, Maryport, Aspatria, Cockermouth, Wigton etc. **Lake District National Park Core Strategy** – 900 additional dwellings in the period to 2025 (50% in rural service centres, 20% in villages and 30% in clusters and the open countryside). There will be an additional 9.2ha of employment land and it is acknowledged that the Park needs one or more additional nationally significant visitor attractions. **Lake District National Park Site Allocations Preferred Options** – All employment land allocated will be in the Rural Service Centres. Subberthwaite, Blawith

	&Torver Low Commons SAC falls into the South Distinctive Area which will accommodate 14% of all development in the LDNP. **Carlisle LDF Core Strategy Issues and Options** – Currently no policy direction offered. Carlisle has been designated as a growth point though so it can be reasonably expected that there will be a significant amount of additional housing and employment development over the plan period. **Eden Adopted Core Strategy** – Focus new build housing in Key and Local Service Centres whilst allowing for meeting essential needs in smaller settlements. The plan takes the RSS housing target of 239 additional dwellings per annum to 2025 (over 3100 units in total). 50ha of employment land will be made available to 2025. **Barrow Port Area Action Plan** – 925 additional dwellings in the Action Plan Area to 2021. Additional leisure facilities including marina and boat servicing area, Waterfront hotel, Water sports centre and very limited amount of retail. Improving access to the operational port from road and sea to support new opportunities to increase the proportion of freight moved by sea. Development of Waterfront Business Park as a major new business and employment location (24.5ha site). **South Lakeland LDF Core Strategy** – 55% of new housing and employment development will be in the Principal Service Centres, 13% in Key Service Centres, 21% in Local Service Centres and 11% in the smaller villages and hamlets. Housing target is 469 additional dwellings per year equating to nearly 6100 to 2025. 21ha of employment development to be accommodated in Kendal to 2025, 12ha to be accommodated in Ulverston and Furness but overall 4 ha of employment land will be allocated per annum between 2010 and 2025 equating to 60ha over the plan period. **Cumbria Local Transport Plan 3** – Support for the upgrading of the A595, A590, A5094 and A66 as well as any improvements needed to support growth in the low carbon energy sector. Increased bus services in rural areas. Improvement to the Cumbria West Coast Railway. Carlisle Northern Development Route will be completed in 2012. **Cumbria Minerals and Waste LDF Core Strategy** – no regional waste facilities to be located in Cumbria. At least one new waste facility will be needed in the south of the county. Proposes a decentralised network of waste facilities with a preference for sites which could accommodate more than one type of facility, for example, a Household Waste Recycling Centre and a Transfer/Bulking Station. This relates well to the Overall Strategy and Core Strategy Policy for minimising "waste miles". **Cumbria Minerals and Waste Site Allocations DPD** – Allocates sites for mineral working and waste facilities. The HRA for this document stated that there were 13 sites in the whole of the county that would require an Appropriate Assessment at project stage but that the policies themselves were unlikely to have negative effects on the integrity of any of the sites. The mitigation measures that are considered likely to be needed are common place and could form the conditions of the planning application.
Is there risk of a significant effect in combination?	As all of the above plans are planning for a greater amount of development in each of the plan areas it is likely that there could be a significant effect on the integrity of the site. A separate HRA screening report will be prepared in tandem with the Site Allocations DPD.

Wast Water SAC



Name	Wast Water
Designation	SAC
Area (ha)	286.21
Qualifying	Clear-water lakes or lochs with aquatic vegetation and poor to moderate

features	nutrient levels
SSSIs within the site	Wast Water
Comments on Nature Conservation Importance and site vulnerabilities	• Species such as awlwort and stoneworts (Nitella species) are known to occur. Arctic charr occur in the lake • Unusually pristine lake, with a relative lack of anthropogenic influence There are no known threats, human pressures or otherwise, which will adversely affect the water quality of Wast Water. Sellafield used to abstract water from the lake but the site is being decommissioned now. It is not known whether any new reactors on the site will abstract water from the same source or have a closed system whereby water is cooled in a network of cooling pipes running from the plant out to sea and back.
Key Environmental Conditions to Support Site Integrity	Conditions ***not*** within Copeland's control • Poor to moderate nutrient levels • Absence of lakeshore modifications Conditions within Copeland's control • Absence of water pollution • Absence of atmospheric pollution • Maintain current range of fluctuations in lake levels (in particular avoiding excessive drawdown in summer months)
Air Quality Issues	As this is an aquatic environment there is no critical load/level data available for air pollutants for this habitat. Current readings for several pollutants are available in Appendix 1. Arctic Charr are sensitive to acidification of the water. Acidification arises as a result of acid and nitrogen deposition, both of which are constituents of vehicle emissions so there will be a need to ensure that this is controlled. The main roads in the area are the A595 and A591. Both roads are quite a distance from the site but air pollutants can travel significant distances. The majority of nitrogen and acid deposition in Cumbria occurs as the result of air pollutants generated in the heavily urban areas to the south of the region (needs referencing!) However, more locally the potential for an increase in traffic will have to be taken into account in the HRA Screening Reports for the Site Allocations DPD and planning applications for any nuclear or other major development.
Water Resource and Wastewater Treatment Issues	*Wastewater* – the topography between the site and the plan area would not allow the site to become contaminated with raw sewage generated here. *Water Resources* – the nuclear generating plant at Sellafield used water abstracted from the site for cooling purposes. It is not clear whether this will be the case with regards to the Moorside nuclear new build project. The HRA that accompanies the planning application for this proposal will need to address this issue.
Possible impacts arising from the plan	• Development within the LDF may result in increased water abstraction from Wast Water, for industrial as well as domestic supply. The River Irt is short of water. • There are concerns over the ability for existing WwTW(s) discharging in to the site to provide adequate capacity. • Development generally leads to a greater instance of air pollution
Source *Pathway* **Impact**	More development Increased tourism and access could lead to increased traffic movement in the West Cumbria area resulting in **more air pollution** that would *travel on the prevailing wind towards the site.* More development and the need to supply more water to domestic and

	commercial properties could lead to more *water abstraction* from Wast Water meaning that **the level of the lake drops in the summer time**. This would have a negative impact on some of the sensitive plant species living on the water's edge. Increased amount of development leading to **greater air pollutants** which could *travel on the prevailing wind* towards the site. *Rain falling through polluted air* could lead to a small amount of **water pollution affecting the health of important species.**
Policies that could potentially have a negative impact	The required environmental conditions will be affected by an increased population, both resident and visitor and their transport and water requirements. Therefore the following policies have the potential to affect the site negatively. **ST1** – supporting growth in terms of housing, employment, services and tourism. **ST2 -** providing for and facilitating growth in the local economy, particularly in the energy sector, accompanied by net growth in jobs and an associated increase in demand for housing and services **ST3** – Site adj. to Sellafield, regeneration sites in Whitehaven Cleator Moor, Egremont and Millom are priorities for development. Developing the sites prioritised for development in the BECMP. **ER1 -** Major nuclear energy-related expansion, including new generating capacity, at the selected preferred site immediately to the north of the Sellafield nuclear complex, is supported in principle. Accommodation of e any new reprocessing in the nuclear fuel cycle within existing Sellafield site boundaries will be supported in principle subject to a full and satisfactory safety case. **ER3 -** Identify potential requirements for temporary accommodation associated with the construction of additional energy generating capacity and associated infrastructure **ER4 -** Allocating land for economic development over the plan period at a rate ahead of that implied by projecting past take up rates, to allow a flexible response to emerging demand. **ER8 -** Providing more car parking in the town centre could encourage more people to drive rather than use public transport. **ER10 -** Expand tourism outside the Lake District National Park boundaries. **ER11 -** Supporting the development of commercial units which meet the needs of businesses, encourage start-ups and promote further expansion. Encouraging the further development of Research and Development and education and training facilities at the Westlakes Science & Technology Park. Enhancing inward investment and promoting the diversification of the Borough's economy, working with partners to support new and expanding employment sectors **SS1 -** Allocating housing sites to meet local needs in locations attractive to house builders **SS2 -** Allocating sufficient land for new housing development to meet identified requirements within the Borough. Allocations will be made in accordance with the following housing targets: i. A baseline requirement, derived from projected household growth, of 230 dwellings per year ii. Provision for growth 30% above that, to 300 dwellings per year. **SS3 -** Establishing a supply of sites suitable for executive and high quality family housing, focusing on Whitehaven and its fringes as a priority and also giving particular attention to the three smaller towns. Providing housing for specific groups where there is housing need, including temporary workforce, agricultural

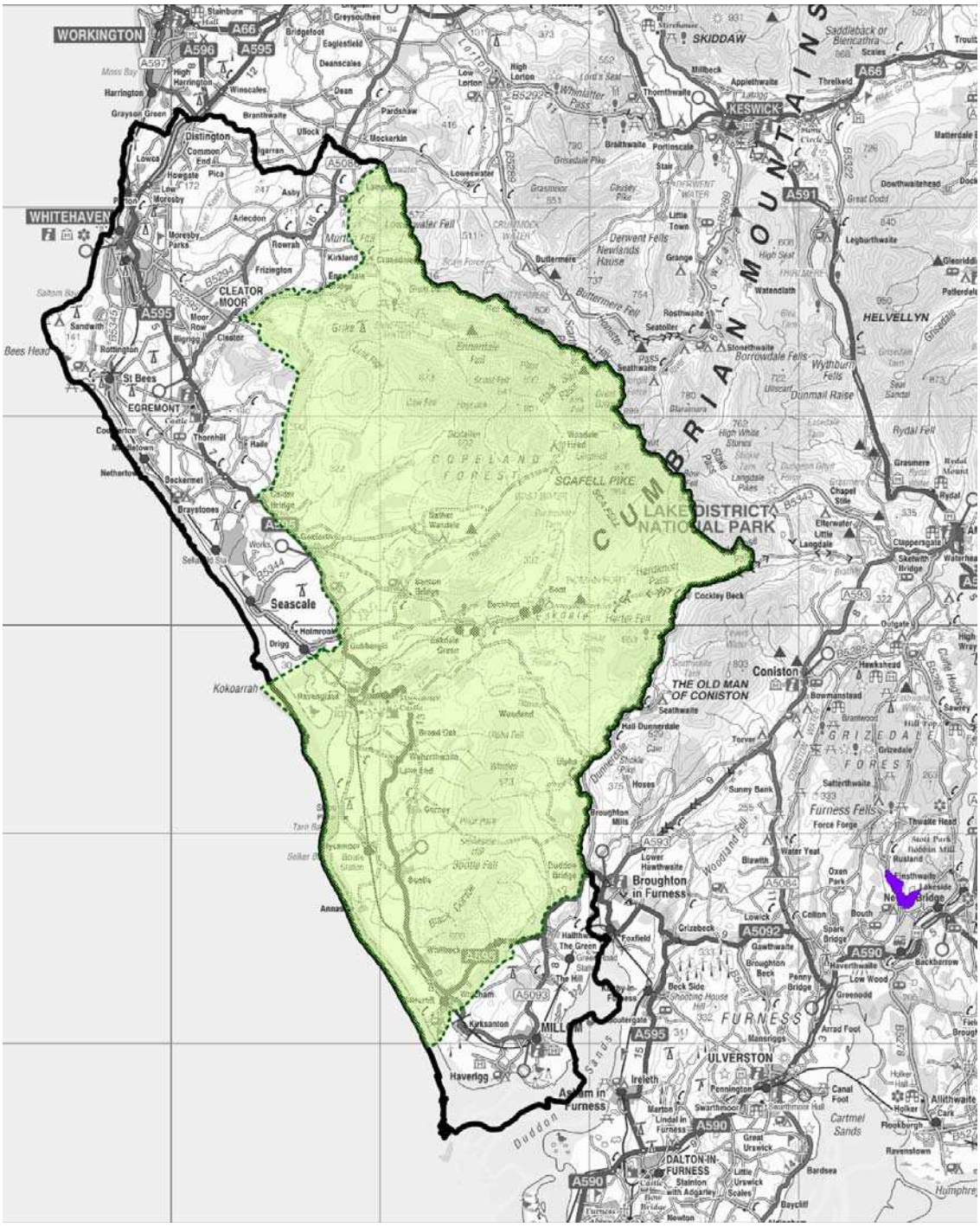
	workers and key workers **SS4** - increasing the provision of local community facilities, such as community centres, local sport and public open space in Local Centres and villages identified as needing them **T1 -** Priority will be given to improving the accessibility of the Borough's key development and regeneration sites, town and village centres, service, employment and transport hubs, and rural areas **ENV2 -** Promote the developed coast as a destination for tourism, with strong links to Whitehaven Harbour / town centre in the north and to Millom in the south.
Policies that eradicate/lessen the risk posed	**ST1 -** Focus development on sites that are at least risk from flooding (thereby cutting down on the amount of pollution and nutrients that enter the river). Protect and enhance areas, sites, species and features of nature conservation and biodiversity value, landscapes and the undeveloped coast. Ensure development minimises air, ground and water pollution. **ST4 -** Development proposals should provide, or contribute to the provision of environmental requirements either on or off site, as is reasonable and necessary to support and mitigate the impact of the development **ER1** - In applying this policy the Council will seek to ensure that all investment in the nuclear sector is accompanied by appropriate financial or in kind contributions to mitigate any potentially detrimental impacts of development. **ER3** - Ensure that any new energy transmission infrastructure minimises potential impacts on the Borough's biodiversity. Explore potential locations for accommodation which minimise potential impacts and where sites can be fully restored with uses that benefit the Borough; **ER10 -** Locate new tourist accommodation, facilities and attractions where there is proven capacity for additional visitors to be accommodated without adverse environmental impacts. **T1** – improved public transport network. **T2** – reducing the need to travel through supporting the provision of high quality broadband connections **ENV1 -** Permitting new build development only on sites located outside areas at risk of flooding. Ensuring that new development does not contribute to increased surface water run-off through measures such as sustainable drainage systems, where these are practical. Where they are not this should be achieved by improvements to drainage capacity. **ENV2 -** Support energy generating developments that require a coastal location along the undeveloped coast, provided that the potential impacts on biodiversity is carefully assessed against the benefits. Where negative impacts are likely these must be mitigated against and compensated for **ENV3** - Improve the condition of internationally, nationally and locally designated sites; Restrict access and usage where appropriate and necessary in order to conserve an area's biodiversity value. Protect and strengthen populations of priority or other protected species. **DM1 -** Proposals involving the use, storage or processing of radioactive material should include a strategy for the construction and the long term management and safety of the site including the management of radioactive material **DM2** – Proposals for renewable energy development must not have unacceptable impacts on biodiversity. DM5 **-** Proposals for any new facilities are submitted with long term management plans to set out how operations will be co-ordinated to minimise

	any harmful effects **DM11** – Developments that ensure that surface water is managed appropriately, with the inclusion of sustainable drainage systems where possible will be supported (subject to other planning considerations of course). **DM22** – Where necessary the potential transport implications of development will be required to be supported by a Transport Assessment and a Travel Plan to manage any significant transport implications. **DM24 -** Development will not be permitted where it is found that there is an unacceptable risk of flooding or the development would increase the risk of flooding elsewhere. **DM25** - All development proposals must take into account any likely significant effects on the internationally important sites both within the borough and within a 20km radius of the borough boundary as well as those that are hydrologically linked to the development plan area.
Is There a Risk of a Significant Effect? Possibly with particular regards to air pollution	There is the risk of a greater amount of diffuse air pollution. However there are policies in the Core Strategy that encourage a greater amount of green infrastructure and sustainable transport options. There is a risk that Wastewater Treatment Works will not be able to cope with the increased requirement but it is considered that policy ST4A deals adequately with this threat. This would also apply to water supply issues although perhaps there is scope to include the word 'sustainably' so that the text says 'or there is a reliable mechanism in place to ensure that it will be provided *sustainably* when and where required. This would make it clear that the abstraction of drinking water should not have harmful effects on the environment. DM25 will support this (see DM25 text above). It is considered that this document does all that it can at this very strategic level. Until more information is available i.e. at site allocations or project stage it will be very difficult to carry out an appropriate assessment. A separate HRA screening report will be produced as part of the preparation of the Site Allocations DPD.
Possible Impacts Arising from Other Plans and Projects	Improved public transport access to the Lake District National Park has potential to increase tourism and recreational use of the area. **Proposals within West Cumbria Masterplan**– Development of the Westlakes Research Institute at the Science and Technology Park. Development of the National Nuclear Skills Academy at Lillyhall, the Dalton Institute (lab facilities)at Westlakes, further investment in the employment sites at Leconfield and Bridgend. A 'health campus' on the current hospital site and new University of Cumbria facilities at Lillyhall. New National Nuclear Laboratory headquarters in West Cumbria. **North West RSS -** Drigg coast falls within North West coast area of search for a regional park and a planned North West Coastal Trail. There is potential for increased visitor pressure. **Allerdale LDF Core Strategy Issues and Options** – additional 267**-**350 dwellings per year (equating to an extra 4000**-**5250 dwellings over the plan period). Some limited housing development in rural local centres but mainly focused in more sustainable locations i.e. Workington, Maryport, Aspatria, Cockermouth, Wigton etc. **Lake District National Park Core Strategy** – 900 additional dwellings in the period to 2025 (50% in rural service centres, 20% in villages and 30% in clusters and the open countryside). There will be an additional 9.2ha of employment land and it is acknowledged that the Park needs one or more additional

	nationally significant visitor attractions. **Lake District National Park Site Allocations Preferred Options** – All employment land allocated will be in the Rural Service Centres. Wast Water SAC falls into the West Distinctive Area which will accommodate 10% of all development in the LDNP. **Carlisle LDF Core Strategy Issues and Options** – Currently no policy direction offered. Carlisle has been designated as a growth point though so it can be reasonably expected that there will be a significant amount of additional housing and employment development over the plan period. **Eden Adopted Core Strategy** – Focus new build housing in Key and Local Service Centres whilst allowing for meeting essential needs in smaller settlements. The plan takes the RSS housing target of 239 additional dwellings per annum to 2025 (over 3100 units in total). 50ha of employment land will be made available to 2025. **Barrow Port Area Action Plan** – 925 additional dwellings in the Action Plan Area to 2021. Additional leisure facilities including marina and boat servicing area, Waterfront hotel, Water sports centre and very limited amount of retail. Improving access to the operational port from road and sea to support new opportunities to increase the proportion of freight moved by sea. Development of Waterfront Business Park as a major new business and employment location (24.5ha site). **South Lakeland LDF Core Strategy** – 55% of new housing and employment development will be in the Principal Service Centres, 13% in Key Service Centres, 21% in Local Service Centres and 11% in the smaller villages and hamlets. Housing target is 469 additional dwellings per year equating to nearly 6100 to 2025. 21ha of employment development to be accommodated in Kendal to 2025, 12ha to be accommodated in Ulverston and Furness but overall 4 ha of employment land will be allocated per annum between 2010 and 2025 equating to 60ha over the plan period. **Cumbria Local Transport Plan 3** – Support for the upgrading of the A595, A590, A5094 and A66 as well as any improvements needed to support growth in the low carbon energy sector. Increased bus services in rural areas. Improvement to the Cumbria West Coast Railway. Carlisle Northern Development Route will be completed in 2012. **Cumbria Minerals and Waste LDF Core Strategy** – no regional waste facilities to be located in Cumbria. At least one new waste facility will be needed in the south of the county. Proposes a decentralised network of waste facilities with a preference for sites which could accommodate more than one type of facility, for example, a Household Waste Recycling Centre and a Transfer/Bulking Station. This relates well to the Overall Strategy and Core Strategy Policy for minimising "waste miles". **Cumbria Minerals and Waste Site Allocations DPD** – Allocates sites for mineral working and waste facilities. The HRA for this document stated that there were 13 sites in the whole of the county that would require an Appropriate Assessment at project stage but that the policies themselves were unlikely to have negative effects on the integrity of any of the sites. The mitigation measures that are considered likely to be needed are common place and could form the conditions of the planning application. **Shoreline Management Plan 2** – In the Duddon Estuary area the approach is to maintain the line, where there are assets to protect, and to let the shore continue to erode where there are limited assets.

Is there risk of a significant effect in combination?	As all of the above plans are planning for a greater amount of development in each of the plan areas it is likely that there could be a significant effect on the integrity of the site. A separate HRA screening report will be prepared in tandem with the Site Allocations DPD.

Yewbarrow Woods SAC



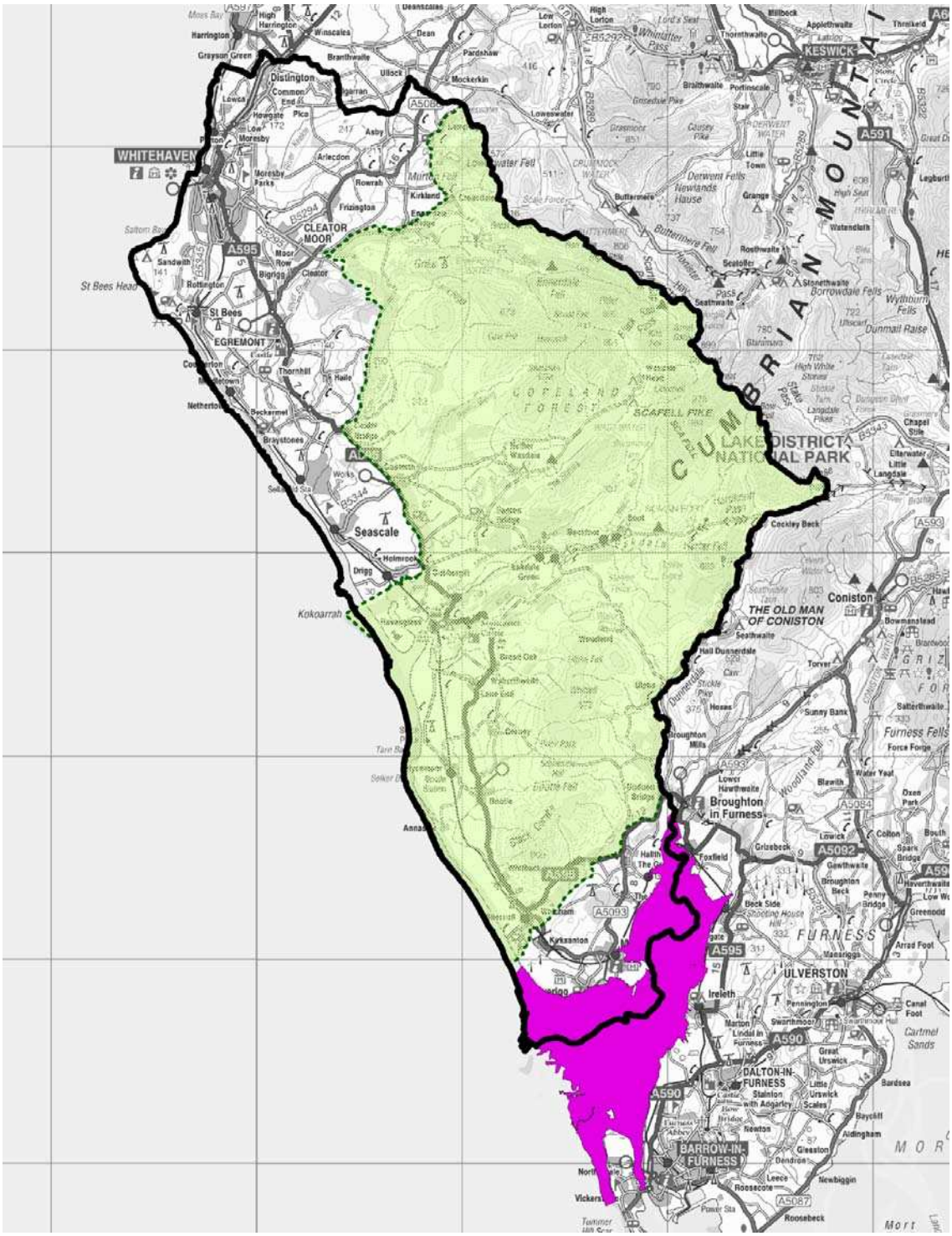
Name	Yewbarrow Woods
Designation	SAC
Area (ha)	112.89
Qualifying features	• Yew-dominated woodland • Juniper on heaths or calcareous grasslands • Western acidic oak woodlands
SSSIs within the	Yewbarrow Woods

site	
Comments on Nature Conservation Importance and site vulnerability	Although lack of regeneration at Yewbarrow is a problem resulting from browsing by deer, woodland grants have been given in recent years to encourage regeneration of native trees, together with funding for stockproof fencing. Estimates of areas covered by yew, juniper and heath will be checked the next time the site is surveyed.
Key Environmental Conditions to Support Site Integrity	Conditions ***not*** within Copeland's control • Moderately high or high rainfall • Base-poor soils • Control of grazing (especially by deer) to allow regeneration • Control of any disease outbreaks Conditions within Copeland's control • Control of invasive non-native species
Air Quality Issues	The levels of SO_2, ozone and NO□ sampled at the site do not cause any concern. However, there are issues with the levels of nitrogen and acid deposition that are both significantly above the critical loads for the woodland habitats (see Appendix 1 for details). The levels of ammonia are also very close to the critical levels for the oak wood habitat because of the presence of lichens and bryophytes.
Water Resource and Wastewater Treatment Issues	*Wastewater* – United Utilities report that there will be no problems accommodating the planned growth in the South Copeland locality. The site is 15km from the plan area boundary and the topography between the two areas would make it very difficult for the site to become contaminated with raw sewage. This is not considered to be a risk to the integrity of the site in any case. *Water Resources* – There are no plans to abstract drinking water from the South Copeland area.
Possible impacts arising from the plan	• Invasive species could be a problem if proper controls are not in place to ensure that planting is of native, non-invasive species
Source *Pathway* **Impact**	Increased amount of development in the plan area some of which will have planting schemes *Creeping of non-native species across land towards the sensitive site.* **Competition with sensitive species leading to decline or extinction on the site.**
Policies that could potentially have a negative impact	The following policies could have a negative impact on this site. **ENV5 -** ensuring that the impact of the development on the landscape is minimised through adequate mitigation, preferably on-site **DM26 -** Development proposals, where necessary, will be required to include landscaping schemes that retain existing landscape features, reinforce local landscape character and mitigate against any adverse visual impact.
Policies that eradicate/lessen the risk posed	**DM25 -** All development proposals should: Protect the biodiversity value of land and buildings; All development proposals must take into account any likely significant effects on the internationally important sites both within the borough and within a 20km radius of the borough boundary as well as those that are hydrologically linked to the development plan area.
Is There a Risk of a Significant Effect? Possibly – but this could be	There is possibly a risk of negative impact on this site arising from non-native species. However, it is proposed that this risk could be lessened to an acceptable level if words were added to the policy DM26 that allowed planning conditions to stipulate that only plants native to the particular landscape in question are used in landscaping schemes.

managed with additional wording in policy	
Possible Impacts Arising from Other Plans and Projects	**Proposals within West Cumbria Masterplan**– Development of the Westlakes Research Institute at the Science and Technology Park. Development of the National Nuclear Skills Academy at Lillyhall, the Dalton Institute (lab facilities)at Westlakes, further investment in the employment sites at Leconfield and Bridgend. A 'health campus' on the current hospital site and new University of Cumbria facilities at Lillyhall. New National Nuclear Laboratory headquarters in West Cumbria. **North West RSS** - Drigg coast falls within North West coast area of search for a regional park and a planned North West Coastal Trail. There is potential for increased visitor pressure. **Allerdale LDF Core Strategy Issues and Options** – additional 267-350 dwellings per year (equating to an extra 4000-5250 dwellings over the plan period). Some limited housing development in rural local centres but mainly focused in more sustainable locations i.e. Workington, Maryport, Aspatria, Cockermouth, Wigton etc. **Lake District National Park Core Strategy** – 900 additional dwellings in the period to 2025 (50% in rural service centres, 20% in villages and 30% in clusters and the open countryside). There will be an additional 9.2ha of employment land and it is acknowledged that the Park needs one or more additional nationally significant visitor attractions. **Lake District National Park Site Allocations Preferred Options** – All employment land allocated will be in the Rural Service Centres. Yewbarrow Woods SAC falls into the South Distinctive Area which will accommodate 14% of all development in the LDNP. **Carlisle LDF Core Strategy Issues and Options** – Currently no policy direction offered. Carlisle has been designated as a growth point though so it can be reasonably expected that there will be a significant amount of additional housing and employment development over the plan period. **Eden Adopted Core Strategy** – Focus new build housing in Key and Local Service Centres whilst allowing for meeting essential needs in smaller settlements. The plan takes the RSS housing target of 239 additional dwellings per annum to 2025 (over 3100 units in total). 50ha of employment land will be made available to 2025. **Barrow Port Area Action Plan** – 925 additional dwellings in the Action Plan Area to 2021. Additional leisure facilities including marina and boat servicing area, Waterfront hotel, Water sports centre and very limited amount of retail. Improving access to the operational port from road and sea to support new opportunities to increase the proportion of freight moved by sea. Development of Waterfront Business Park as a major new business and employment location (24.5ha site). **South Lakeland LDF Core Strategy** – 55% of new housing and employment development will be in the Principal Service Centres, 13% in Key Service Centres, 21% in Local Service Centres and 11% in the smaller villages and hamlets. Housing target is 469 additional dwellings per year equating to nearly 6100 to 2025. 21ha of employment development to be accommodated in Kendal to 2025, 12ha to be accommodated in Ulverston and Furness but overall 4 ha of employment land will be allocated per annum between 2010 and 2025 equating

	to 60ha over the plan period. **Cumbria Local Transport Plan 3** – Support for the upgrading of the A595, A590, A5094 and A66 as well as any improvements needed to support growth in the low carbon energy sector. Increased bus services in rural areas. Improvement to the Cumbria West Coast Railway. Carlisle Northern Development Route will be completed in 2012. **Cumbria Minerals and Waste LDF Core Strategy** – no regional waste facilities to be located in Cumbria. At least one new waste facility will be needed in the south of the county. Proposes a decentralised network of waste facilities with a preference for sites which could accommodate more than one type of facility, for example, a Household Waste Recycling Centre and a Transfer/Bulking Station. This relates well to the Overall Strategy and Core Strategy Policy for minimising "waste miles". **Cumbria Minerals and Waste Site Allocations DPD** – Allocates sites for mineral working and waste facilities. The HRA for this document stated that there were 13 sites in the whole of the county that would require an Appropriate Assessment at project stage but that the policies themselves were unlikely to have negative effects on the integrity of any of the sites. The mitigation measures that are considered likely to be needed are common place and could form the conditions of the planning application.
Is there risk of a significant effect in combination?	Possibly – a separate HRA Screening Report will have to accompany the site Allocations DPD for Copeland.

Duddon Estuary SPA & Ramsar Site



Name	Duddon Estuary
Designation	SPA & Ramsar Site
Area (ha)	6806.3
Qualifying features	Nationally important breeding population of sandwich tern. Internationally significant numbers of passage ringed plover and sanderling. Internationally

	important numbers of wintering red knot, northern pintail and common redshank. Total wintering waterfowl numbers are of international importance.Natterjack toads are also present and are listed on the Ramsar Information sheet as a qualifying feature for that designation.
SSSIs within the site	Duddon Estuary SSSI
Comments on Nature Conservation Importance and site vulnerabilities	*'The Duddon Estuary is a diverse estuarine system dependent on the physical processes that dominate the natural system: consequently the vulnerability of habitats is linked to changes in the physical environment.* *The intertidal zone is being threatened by coastal squeeze as a result of land claim and coastal defence works as well as sea level rise and storm surges. Many of the saltmarshes are grazed by agricultural stock, sometimes at a high level. These issues are being addressed through the Shoreline Management Plan and more locally, Site Management Statements/Positive Management Schemes. Waterfowl wintering on estuaries are vulnerable to loss of feeding areas through disturbance, land claim and development. The Duddon Estuary partnership is addressing some of the threats arising from recreational pressure and bait digging. Feasibility studies are being carried out for a bridge across the estuary, any such proposals will be subject to assessment under the Habitats Regulations, 1994. There are various developments for housing, amenity and industry adjacent to the site, however to date there has been no significant effect on the nature conservation interest of the estuary.'* – Statement taken from Standard Natura 2000 data form prepared in 2006. Threats recorded on the Ramsar site database are: Industrial waste pollution Fertilizer pollution Tourism-based /recreational disturbance (unspecified) Domestic sewage pollution Erosion Overgrazing by domestic livestock
Key Environmental Conditions to Support Site Integrity	Conditions ***not*** within Copeland's control • Management of saltmarsh grazing • Control of bait digging, dredging and fishing • Maintain hydrology of wet grassland (for waders). • Maintenance of natural sedimentation patterns Conditions within Copeland's control • Control of non-native species • No physical constraints to natural migration of mobile habitats • Avoidance of pollution • Maintenance of uninterrupted views • Open ground for nesting terns and other species feeding and roosting, year round • Avoidance of disturbance (land and water-based) • No physical constraints to managed realignment if required in response to coastal squeeze
Air Quality Issues	Air pollution is not so critical for this designation as the qualifying features are bird species and they are less sensitive to most air pollutants. The exceptions are acid deposition and some organic pesticides (that are no longer in use but persist in the environment e.g. DDT). The acid deposition rate for Morecambe Bay (another SPA close to the site) is 1.76 keq/ha/year. Natterjack toads, a

	qualifying feature for Ramsar, are affected by acidification during the larval stage. One of the many anthropogenic sources of acidification is vehicle emissions. There are a number of A roads near to the site. These are A590, A595, A5093, A5092 and A593. The potential for an increase in traffic will have to be taken into account in the HRA Screening Reports for the Site Allocations DPD and planning applications for any nuclear or other major development.
Water Resource and Wastewater Treatment Issues	Wastewater – United Utilities state that they expect that the Millom Treatment Works will be able to accommodate the planned growth in South Copeland. Works are currently being carried out to improve the capacity of the works and it is intended that this will improve the quality of the treated water flowing into the Duddon Estuary. Water Resources – there are no plans to abstract drinking water from the South Copeland locality.
Possible impacts arising from the plan	• There are concerns over the ability for existing WwTW(s) discharging in to the site to provide the increased capacity required to support the growth proposed in the NWP. • Coastal squeeze. • The planned North West Coastal Trail would pass nearby. • Proposed leisure and tourism uses means there is potential for increased visitor pressure. • Flood defence measures • Air, water and ground pollution • Introduction of non-native plant species in landscaping schemes • There will be some development in the Key Service Centre of Millom and a limited amount of development in the Local centre of Haverigg.
Source *Pathway* **Impact**	Increased amount of development in the plan area some of which will have planting schemes *Creeping of non-native species across land towards the sensitive site.* **Competition with sensitive species leading to decline or extinction on the site.** Encouraging more tourists to the area will increase the amount of vehicular traffic and people walking on and near to the site. **Physical damage to habitats, erosion, litter accumulation, disturbance to sensitive species etc.** Development immediately behind the coast leading to the need to **stop thenatural movement of the dunes, loss of open ground and uninterrupted views.** Increased tourism and access could lead to increased traffic movement in the West Cumbria area resulting in **more air pollution** that would *travel on the prevailing wind towards the site.* Extra housing leading to an increase in amount of sewage *Existing Wastewater treatment plants discharging untreated sewage into Morecambe Bay* **Decline in water quality posing risk to plant and animal species and contaminating land.** Development on land claim areaswould **decrease the amount of intertidal habitat available**
Policies that could potentially have a negative	The following policies could have a negative effect on the Duddon Estuary: **ST1** – Support energy, economic and housing development as well as services and recreational facilities.

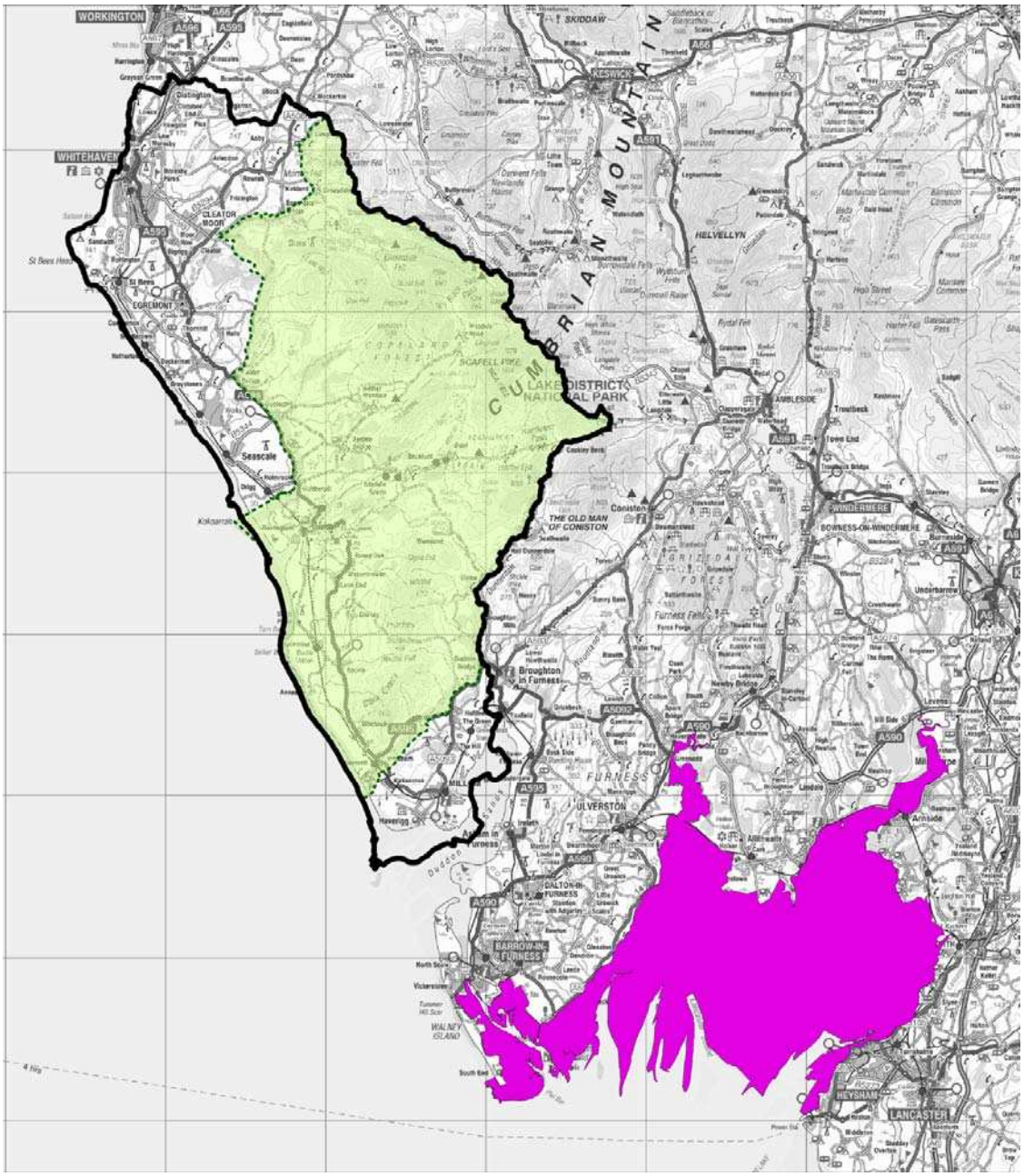
impact	**ST2 -** facilitate growth in the local economy and associated growth in demand for housing and services. Support for new nuclear generating capacity and essential infrastructure. **ST3** – In pursuit of economic regeneration and growth. **ER1** – Support for nuclear new build – whilst the operational phase should be reasonably clean with regards to emissions, the construction phase has the potential to have a negative impact. **ER2** – Support for renewable energy developments **ER3** – Identify sites for NNB construction workers accommodation, encourage development of new educational facilities. **ER4** – Allocating land for economic development over the plan period at a rate exceeding the take up rate of the past. **ER7** – Supporting the continued growth of Whitehaven. Encourage evening and night time uses. **ER8** – Enhancing the retail function of the town centre and improving the tourism offer. Developments should provide parking both for the development and the town centre. Conversion of vacant floors over shops into residential accommodation. Redrawing the town centre boundary to reflect the anticipated growth and development in the area. **ER9** – Town centre improvements will be encouraged in the Key Service Centres to attract more visitors. **ER10** – Expand tourism outside the Lake District boundaries. **ER11** – Supporting new and expanding employment sectors. Supporting the development of commercial units. **SS1** – Allocation of housing sites, renovation and improvement of existing housing stock, demolition and redevelopment schemes. **SS2** – Housing allocations to meet a baseline requirement of 230-300 dwellings per year. **SS4 -** Encouraging the provision of good quality services and facilities **T1** – Transport improvements including new Pow Beck Spine Road, new Eastern relief road, improvements to A595 and A5086. Better connections will be sought to the A66, M6, A595 etc. Parking strategy will set out guidance for incorporating car parking in new developments. **ENV1** - Support for new flood defence measures to protect against both tidal and fluvial flooding in the borough, including appropriate land management as part of a catchment wide approach. **ENV2** – Support for energy generating developments which require a coastal location. **ENV4** – Supporting proposals for heritage led regeneration. **ENV5** - Development proposals, where necessary, will be required to include landscaping schemes that retain existing landscape features, reinforce local landscape character and mitigate against any adverse visual impact.
Policies that eradicate/lessen the risk posed	**ST1 –** Protect and enhance sites of nature conservation and biodiversity value. Encourage creation of new areas of green infrastructure. Ensure development minimises air, ground and water pollution. **ST2** – Growth should be concentrated in the settlements focussing the largest scale development in sustainable locations. **ST4 -** Development proposals should provide, or contribute to the provision of environmental requirements on or off site. **ER1** – The Council will work with partners to identify whether a high-level waste repository can be justified and that there are no negative impacts on, inter alia,

	the environment. The Council will seek to ensure that all investment in the nuclear sector is accompanied by financial or in-kind contributions to mitigate any potentially detrimental impacts. **ER2** – Support for renewable energy generating developments at locations which minimise environmental impacts so that they are within acceptable limits. **ER3** – Ensure that any new energy infrastructure minimises potential impacts on biodiversity. **ER6** – Presumption in favour of employment sites in sustainable locations. **ER10 -** Wherever possible tourism providers will be required to ensure that accommodation and attractions are well connected to other tourist destinations and amenities, particularly by public transport, walking and cycling. Locate new tourist accommodation, facilities and attractions where there is proven capacity for additional visitors to be accommodated without adverse environmental or amenity impacts. **T1** - The Council will support transport improvements that maximise accessibility for all modes of transport but particularly by foot, cycle and public transport. **T2 -** Developments which seek to extend or improve connectivity through existing and emerging telecommunications in all parts of the Borough will be supported (subject to appropriate safeguards) – minimising the need to travel. **ENV1** – Planting trees to control flood risk will have a positive impact on air quality **ENV3 -** Protecting and extending woodland habitat will have a positive impact on air quality. **ENV5** – On site mitigation to take place where the positive impacts of the development clearly outweigh the negative impact on the landscape. Encouraging green infrastructure will have a positive impact on air quality. **ENV6 -** Identifying potential for a community forest to the South and West of Egremont. A large number of trees planted in the borough would help to lower the levels of pollution in the air over the longer term. **DM1 -** Proposals involving the use, storage and processing of radioactive material should include a strategy for the long term management and safety of the site and material. The Council and other Key stakeholders should be fully involved in any Environmental Assessment undertaken. The Council will seek an appropriately scoped, scales and phased package of community benefits to minimise the environmental impacts of the nuclear development. **DM2** – Renewable energy development will have no adverse impact on biodiversity. Proposals should be developed with key stakeholders (which will include biodiversity organisations). **DM5** – Proposals for any new nuclear facilities should be submitted with long term management plans that will minimise any harmful effects. **DM22** - Where necessary the potential transport implications of development will be required to be supported by a Transport Assessment and a Travel Plan to manage any significant transport implications. **DM25 -** All development proposals must take into account any likely significant effects on the internationally important sites both within the borough and within a 20km radius of the borough boundary as well as those that are hydrologically linked to the development plan area.
Is There a Risk of a Significant Effect?	Regarding the matter of the prevention of the introduction of non-invasive species – there is probably scope for adding some words to the policy DM26 that allows conditions to be put on planning permissions that states that all species used in landscaping schemes must use plants that are native to that

	particular landscape. There is the risk of a greater amount of diffuse air pollution. However, there are a significant number of policies within the Core Strategy and Development Management Policies DPD that highlight the importance of minimising carbon emissions and increasing the amount and quality of green infrastructure which will help to control air pollution. There is a risk that Wastewater Treatment Works will not be able to cope with the increased requirement but it is considered that policy ST4A deals adequately with this threat. Trampling is an important issue when considering policies that encourage more people into any given area. ENV3F does, however, allow for planners to add conditions that will restrict access and usage of land where that would lead to trampling and disturbance of sensitive habitats and species. This should significantly lessen the risk of damage. A separate HRA Screening Report will be submitted with the Site Allocations DPD.
Possible Impacts Arising from Other Plans and Projects	**Proposals within West Cumbria Masterplan**– Development of the Westlakes Research Institute at the Science and Technology Park. Development of the National Nuclear Skills Academy at Lillyhall, the Dalton Institute (lab facilities)at Westlakes, further investment in the employment sites at Leconfield and Bridgend. A 'health campus' on the current hospital site and new University of Cumbria facilities at Lillyhall. New National Nuclear Laboratory headquarters in West Cumbria. **North West RSS -** Drigg coast falls within North West coast area of search for a regional park and a planned North West Coastal Trail. There is potential for increased visitor pressure. **Allerdale LDF Core Strategy Issues and Options** – additional 267-350 dwellings per year (equating to an extra 4000-5250 dwellings over the plan period). Some limited housing development in rural local centres but mainly focused in more sustainable locations i.e. Workington, Maryport, Aspatria, Cockermouth, Wigton etc. **Lake District National Park Core Strategy** – 900 additional dwellings in the period to 2025 (50% in rural service centres, 20% in villages and 30% in clusters and the open countryside). There will be an additional 9.2ha of employment land and it is acknowledged that the Park needs one or more additional nationally significant visitor attractions. **Lake District National Park Site Allocations Preferred Options** – All employment land allocated will be in the Rural Service Centres. **Carlisle LDF Core Strategy Issues and Options** – Currently no policy direction offered. Carlisle has been designated as a growth point though so it can be reasonably expected that there will be a significant amount of additional housing and employment development over the plan period. **Eden Adopted Core Strategy** – Focus new build housing in Key and Local Service Centres whilst allowing for meeting essential needs in smaller settlements. The plan takes the RSS housing target of 239 additional dwellings per annum to 2025 (over 3100 units in total). 50ha of employment land will be made available to 2025. **Barrow Port Area Action Plan** – 925 additional dwellings in the Action Plan Area to 2021. Additional leisure facilities including marina and boat servicing area, Waterfront hotel, Water sports centre and very limited amount of retail. Improving access to the operational port from road and sea to support new

	opportunities to increase the proportion of freight moved by sea. Development of Waterfront Business Park as a major new business and employment location (24.5ha site). **South Lakeland LDF Core Strategy** – 55% of new housing and employment development will be in the Principal Service Centres, 13% in Key Service Centres, 21% in Local Service Centres and 11% in the smaller villages and hamlets. Housing target is 469 additional dwellings per year equating to nearly 6100 to 2025. 21ha of employment development to be accommodated in Kendal to 2025, 12ha to be accommodated in Ulverston and Furness but overall 4 ha of employment land will be allocated per annum between 2010 and 2025 equating to 60ha over the plan period. **Cumbria Local Transport Plan 3** – Support for the upgrading of the A595, A590, A5094 and A66 as well as any improvements needed to support growth in the low carbon energy sector. Increased bus services in rural areas. Improvement to the Cumbria West Coast Railway. Carlisle Northern Development Route will be completed in 2012. **Cumbria Minerals and Waste LDF Core Strategy** – no regional waste facilities to be located in Cumbria. At least one new waste facility will be needed in the south of the county. Proposes a decentralised network of waste facilities with a preference for sites which could accommodate more than one type of facility, for example, a Household Waste Recycling Centre and a Transfer/Bulking Station. This relates well to the Overall Strategy and Core Strategy Policy for minimising "waste miles". **Cumbria Minerals and Waste Site Allocations DPD** – Allocates sites for mineral working and waste facilities. The HRA for this document stated that there were 13 sites in the whole of the county that would require an Appropriate Assessment at project stage but that the policies themselves were unlikely to have negative effects on the integrity of any of the sites. The mitigation measures that are considered likely to be needed are common place and could form the conditions of the planning application. **Shoreline Management Plan 2** – In the Duddon Estuary area the approach is to maintain the line, where there are assets to protect, and to let the shore continue to erode where there are limited assets.
Is there risk of a significant effect in combination?	As all of the above plans are planning for a greater amount of development in each of the plan areas it is likely that there could be a significant effect on the integrity of the site. A separate HRA screening report will be prepared along with the Site Allocations DPD.

Morecambe Bay SPA & Ramsar Site



Name	Morecambe Bay
Designation	SPA & Ramsar Site
Area (ha)	37404.6
Qualifying features	• Nationally important breeding population of sandwich tern and little tern. • Nationally important over-wintering population of bar-tailed godwit and European golden plover. • Internationally significant numbers of lesser black-backed and herring gull in breeding season. • Internationally important numbers of ringed plover and sanderling on passage.

	• Eurasian curlew, grey plover, red knot, pink footed goose, northern pintail, common redshank, common shelduck, turnstone and dunlin over-winter in internationally significant numbers. • Total wintering waterfowl numbers are of international importance as are total numbers of breeding seabirds.
SSSIs within the site	South Walney and Piel Channel SSSI Morecambe Bay SSSI Leighton Moss SSSI
Comments on Nature Conservation Importance and site vulnerabilities	The site is subject to a wide range of pressures such as land-claim for agriculture, overgrazing, dredging, overfishing, industrial uses and unspecified pollution. However, overall the site is relatively robust and many of those pressures have only slight to local effects and are being addressed through Management Plans. The breeding tern interest is very vulnerable and the colony has recently moved to the adjacent Duddon Estuary. Positive management is being secured through management plans for non-governmental organisation reserves, English Nature Site Management Statements, European Marine Site Management Scheme, and the Morecambe Bay Partnership.
Key Environmental Conditions to Support Site Integrity	Conditions ***not*** within Copeland's control • Maintain morphological equilibrium of the estuary, including sedimentation patterns • Appropriate grazing of saltmarsh communities • Maintain minimal impact of fishing, bait digging and dredging • High enough water table for dune slacks • Control of bracken/scrub • GCN require suitable foraging and refuge habitat; ponds of roughly neutral pH; some ponds with water throughout the breeding/tadpole development season Conditions within Copeland's control • Maintain temperature and salinity levels within natural range • Avoidance of pollution • Avoidance of nutrient enrichment • No physical constraints to natural migration of mobile habitats such as dunes • Avoidance of damaging levels of erosion from human activities • No increase in organic matter in sediments • No physical constraints to managed realignment if required in response to coastal squeeze • Control of invasive and/or non-native species • GCN require ponds with relatively unpolluted water
Air Quality Issues	Air pollution is not so critical for this designation as the qualifying features are bird species and they are less sensitive to most air pollutants. The exceptions are acid deposition and some organic pesticides (that are no longer in use but persist in the environment e.g. DDT). Great Crested Newts are also sensitive to acidification. As this is an aquatic environment there are no critical loads and levels data for the various air pollutants. Current levels/loads readings are available in Appendix 1. One of the many anthropogenic sources of acidification is vehicle emissions. There are a number of A roads near to the site. These are A590, A595, A5093, A5092 and A593. The potential for an increase in traffic will have to be taken into account in the HRA Screening Reports for the Site Allocations DPD and planning applications for any nuclear or other major development.
Water Resource	*Wastewater*–United Utilities has reported that the Wastewater Treatment Plant

and Wastewater Treatment Issues	at Millom will be able to accommodate the planned growth in South Copeland. Any untreated water would flow into the Duddon Estuary and not Morecambe Bay in any case. *Water Resources* – There are no plans to abstract drinking water from the South Copeland area.
Possible impacts arising from the plan	• There are concerns over the ability for existing WwTW(s) discharging in to the site to provide the increased capacity required. However, given the distance between Morecambe Bay and the Copeland Plan area, this is unlikely to pose a significant threat. • The nominated site for nuclear activity is Sellafield and therefore cooling water will be piped out some distance away from the Morecambe Bay site i.e. changes to temperature and salinity at this distance should be minimal. Potentially significant negative effects • Proposed leisure and tourism uses means there is potential for increased visitor pressure. • Tidal and wave energy developments could have a significant negative impact. • Flood defence measures • Air, water and ground pollution • Introduction of non-native plant species in landscaping schemes • Water contamination can result from rain water falling through air contaminated with car fumes or industrial emissions and therefore any increase in these particulates/gases could cause an increase in water pollution.
Source *Pathway* **Impact**	Extra housing leading to an increase in amount of sewage *Existing Wastewater treatment plants discharging untreated sewage into Morecambe Bay* **Decline in water quality posing risk to plant and animal species and contaminating land.** Encouraging more tourists to the area will increase the amount of vehicular traffic and people walking on and near to the site. **Physical damage to plants and habitats, erosion, litter accumulation, pollution etc.** Increased tourism and access could lead to increased traffic movement in the South Copeland/Mid Copeland area resulting in **more air pollution** that would *travel on the prevailing wind towards the site.* *Rain falling through polluted air* could lead to a small amount of **water pollution possibly affecting the health of important species.** Increased amount of development in the plan area some of which will have planting schemes *Creeping of non-native species across land towards the sensitive site.* **Competition with sensitive species leading to decline or extinction on the site.**
Policies that could potentially have a negative impact	An increase in housing and employment development anywhere in the borough could contribute to an increase in air pollution over Morecambe Bay so the following policies could have a negative impact on the site: **ST1** – Support energy, economic and housing development as well as services and recreational facilities. **ST2** - facilitate growth in the local economy and associated growth in demand for housing and services. Support for new nuclear generating capacity and essential infrastructure. **ST3 –** In pursuit of economic regeneration and growth.

	ER1 – Support for nuclear new build – whilst the operational phase should be reasonably clean with regards to emissions, the construction phase has the potential to have a negative impact. **ER2** – Support for renewable energy developments **ER3** – Identify sites for NNB construction workers accommodation, encourage development of new educational facilities. **ER4** – Allocating land for economic development over the plan period at a rate exceeding the take up rate of the past. **ER7** – Supporting the continued growth of Whitehaven. Encourage evening and night time uses. **ER8** – Enhancing the retail function of the town centre and improving the tourism offer. Developments should provide parking both for the development and the town centre. Conversion of vacant floors over shops into residential accommodation. Redrawing the town centre boundary to reflect the anticipated growth and development in the area. **ER9** – Town centre improvements will be encouraged in the Key Service Centres to attract more visitors. **ER10** – Expand tourism outside the Lake District boundaries. **ER11** – Supporting new and expanding employment sectors. Supporting the development of commercial units. **SS1** – Allocation of housing sites, renovation and improvement of existing housing stock, demolition and redevelopment schemes. **SS2** – Housing allocations to meet a baseline requirement of 230-300 dwellings per year. **SS4 -** Encouraging the provision of good quality services and facilities **T1** – Transport improvements including new Pow Beck Spine Road, new Eastern relief road, improvements to A595 and A5086. Better connections will be sought to the A66, M6, A595 etc. Parking strategy will set out guidance for incorporating car parking in new developments. **ENV1 -** Support for new flood defence measures to protect against both tidal and fluvial flooding in the borough, including appropriate land management as part of a catchment wide approach. **ENV2** – Support for energy generating developments which require a coastal location. **ENV4** – Supporting proposals for heritage led regeneration. **ENV5 -** Development proposals, where necessary, will be required to include landscaping schemes that retain existing landscape features, reinforce local landscape character and mitigate against any adverse visual impact.
Policies that eradicate/lessen the risk posed	**ST1 –** Protect and enhance sites of nature conservation and biodiversity value. Encourage creation of new areas of green infrastructure. Ensure development minimises air, ground and water pollution. **ST2** – Growth should be concentrated in the settlements focussing the largest scale development in sustainable locations. **ST4** - Development proposals should provide, or contribute to the provision of environmental requirements on or off site. **ER1** – The Council will work with partners to identify whether a high-level waste repository can be justified and that there are no negative impacts on, inter alia, the environment. The Council will seek to ensure that all investment in the nuclear sector is accompanied by financial or in-kind contributions to mitigate any potentially detrimental impacts. **ER2** – Support for renewable energy generating developments at locations

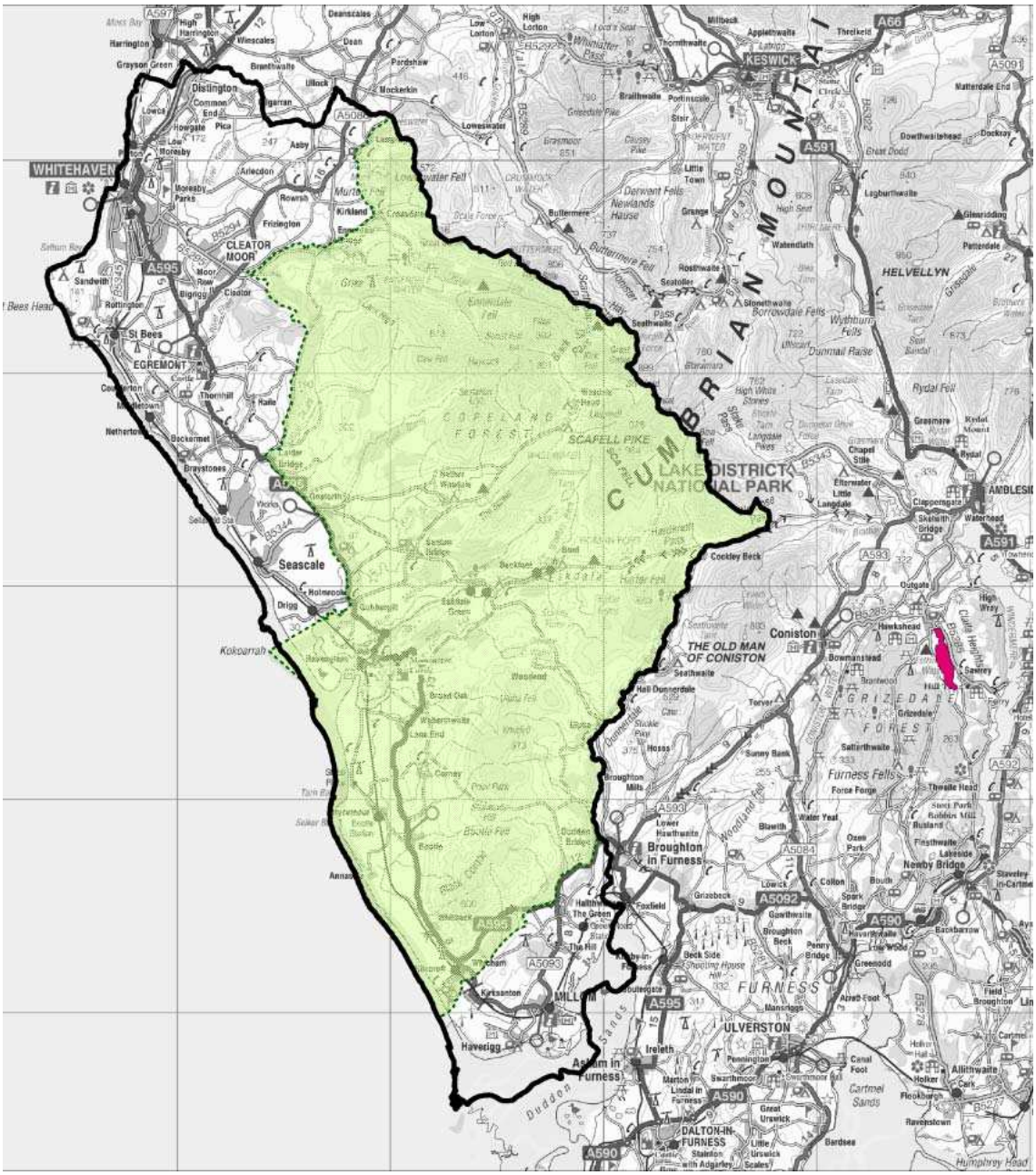
	which minimise environmental impacts so that they are within acceptable limits. **ER3** – Ensure that any new energy infrastructure minimises potential impacts on biodiversity. **ER6** – Presumption in favour of employment sites in sustainable locations. **ER10 -** Wherever possible tourism providers will be required to ensure that accommodation and attractions are well connected to other tourist destinations and amenities, particularly by public transport, walking and cycling. Locate new tourist accommodation, facilities and attractions where there is proven capacity for additional visitors to be accommodated without adverse environmental or amenity impacts. **T1** - The Council will support transport improvements that maximise accessibility for all modes of transport but particularly by foot, cycle and public transport. **T2 -** Developments which seek to extend or improve connectivity through existing and emerging telecommunications in all parts of the Borough will be supported (subject to appropriate safeguards) – minimising the need to travel. **ENV1** – Planting trees to control flood risk will have a positive impact on air quality **ENV3** - Protecting and extending woodland habitat will have a positive impact on air quality. **ENV5** – On site mitigation to take place where the positive impacts of the development clearly outweigh the negative impact on the landscape. Encouraging green infrastructure will have a positive impact on air quality. **ENV6 -** Identifying potential for a community forest to the South and West of Egremont. A large number of trees planted in the borough would help to lower the levels of pollution in the air over the longer term. **DM1 -** Proposals involving the use, storage and processing of radioactive material should include a strategy for the long term management and safety of the site and material. The Council and other Key stakeholders should be fully involved in any Environmental Assessment undertaken. The Council will seek an appropriately scoped, scales and phased package of community benefits to minimise the environmental impacts of the nuclear development. **DM2** – Renewable energy development will have no adverse impact on biodiversity. Proposals should be developed with key stakeholders (which will include biodiversity organisations). **DM5** – Proposals for any new nuclear facilities should be submitted with long term management plans that will minimise any harmful effects. **DM22 -** Where necessary the potential transport implications of development will be required to be supported by a Transport Assessment and a Travel Plan to manage any significant transport implications. **DM25** - All development proposals must take into account any likely significant effects on the internationally important sites both within the borough and within a 20km radius of the borough boundary as well as those that are hydrologically linked to the development plan area.
Is There a Risk of a Significant Effect?	There is the risk of a greater amount of diffuse air pollution. However, there are policies in the Core Strategy that encourage a greater amount of green infrastructure and sustainable transport options. It is considered that this document does all that it can at a very strategic level. Until more information is available i.e. at site allocations or project stage it will be very difficult to carry out an appropriate assessment. There is a risk that Wastewater Treatment Works will not be able to cope with the increased requirement but it is considered that policy ST4A deals adequately

	with this threat. Regarding the prevention of introduction of non-invasive species – there is probably scope for adding some words to the policy DM26 that allow conditions to be put on planning permissions that states that all species used in landscaping schemes must use plants that are native to that particular landscape. Trampling is an important issue when considering policies that encourage more people into any given area. ENV3F does, however, allow for planners to add conditions that will restrict access and usage of land where that would lead to trampling and disturbance of sensitive habitats and species. This should significantly lessen the risk of damage. A separate HRA screening report will be produced as part of the preparation of the Site Allocations DPD.
Possible Impacts Arising from Other Plans and Projects	• Gas exploration. • Morecambe Bridge proposals • Channel widening at Fleetwood associated with port development • ABP cruise terminal • BAE Systems aircraft carrier development at Barrow • Underground gas storage at Wyre Estuary (disposal of brine) • Windfarm cabling • Gateway gas storage (offshore) • Fleetwood Pier regeneration • BNFL shipping movements • Contamination from coastal collapse exposing estuarine waste sites • Shell Flats (Cirrus Array) windfarm, off Cleveleys • Stronger regulation of cockle and mussel fisheries • Coastal access proposals • Wildfowling • 2700 new homes planned for Barrow-in-Furness and 5500 new homes in Fylde. Regeneration of waterfront Barrow is a priority. Lancaster is also a main development locations; Ulverston, Grange-over-Sands, Milnthorpe and Carnforth are Key Services Centres where development will also be focused. • There are concerns over the ability for existing WwTW(s) discharging in to the site to provide the increased capacity required to support the growth proposed in the draft RSS. • Morecambe Bay falls within North West coast area of search for a regional park and parts of Morecambe Bay are planned to be part of it. A planned North West Coastal Trail would also pass nearby. Dependent on selection of area, and proposed uses (e.g. leisure, tourism) there is potential for increased visitor pressure. • Completion of the Heysham to M6 link road will mean increased traffic, and potential development leading to risk of air pollution and water pollution particularly to the River Lune during construction. • Policy W6 advocates tourism development adjacent to National parks and AONBs – this applies to this site and could lead to increased visitor pressure. • Port development at Fleetwood or Heysham and associated freight transport could create disturbance, land take, air and water pollution problems. • Tidal and wave energy proposals. • Coastal squeeze • Flood defence schemes Expansion of activity at Blackpool Airport is unlikely to have a significant effect on the site.

	Proposals within West Cumbria Masterplan– Development of the Westlakes Research Institute at the Science and Technology Park. Development of the National Nuclear Skills Academy at Lillyhall, the Dalton Institute (lab facilities)at Westlakes, further investment in the employment sites at Leconfield and Bridgend. A 'health campus' on the current hospital site and new University of Cumbria facilities at Lillyhall. New National Nuclear Laboratory headquarters in West Cumbria. **North West RSS -** Drigg coast falls within North West coast area of search for a regional park and a planned North West Coastal Trail. There is potential for increased visitor pressure. **Allerdale LDF Core Strategy Issues and Options** – additional 267**-**350 dwellings per year (equating to an extra 4000**-**5250 dwellings over the plan period). Some limited housing development in rural local centres but mainly focused in more sustainable locations i.e. Workington, Maryport, Aspatria, Cockermouth, Wigton etc. **Lake District National Park Core Strategy** – 900 additional dwellings in the period to 2025 (50% in rural service centres, 20% in villages and 30% in clusters and the open countryside). There will be an additional 9.2ha of employment land and it is acknowledged that the Park needs one or more additional nationally significant visitor attractions. **Lake District National Park Site Allocations Preferred Options** – All employment land allocated will be in the Rural Service Centres. **Carlisle LDF Core Strategy Issues and Options** – Currently no policy direction offered. Carlisle has been designated as a growth point though so it can be reasonably expected that there will be a significant amount of additional housing and employment development over the plan period. **Eden Adopted Core Strategy** – Focus new build housing in Key and Local Service Centres whilst allowing for meeting essential needs in smaller settlements. The plan takes the RSS housing target of 239 additional dwellings per annum to 2025 (over 3100 units in total). 50ha of employment land will be made available to 2025. **Barrow Port Area Action Plan** – 925 additional dwellings in the Action Plan Area to 2021. Additional leisure facilities including marina and boat servicing area, Waterfront hotel, Water sports centre and very limited amount of retail. Improving access to the operational port from road and sea to support new opportunities to increase the proportion of freight moved by sea. Development of Waterfront Business Park as a major new business and employment location (24.5ha site). **South Lakeland LDF Core Strategy** – 55% of new housing and employment development will be in the Principal Service Centres, 13% in Key Service Centres, 21% in Local Service Centres and 11% in the smaller villages and hamlets. Housing target is 469 additional dwellings per year equating to nearly 6100 to 2025. 21ha of employment development to be accommodated in Kendal to 2025, 12ha to be accommodated in Ulverston and Furness but overall 4 ha of employment land will be allocated per annum between 2010 and 2025 equating to 60ha over the plan period. **Cumbria Local Transport Plan 3** – Support for the upgrading of the A595, A590, A5094 and A66 as well as any improvements needed to support growth in the low carbon energy sector. Increased bus services in rural areas. Improvement to the Cumbria West Coast Railway. Carlisle Northern Development Route will be completed in 2012.

	Cumbria Minerals and Waste LDF Core Strategy – no regional waste facilities to be located in Cumbria. At least one new waste facility will be needed in the south of the county. Proposes a decentralised network of waste facilities with a preference for sites which could accommodate more than one type of facility, for example, a Household Waste Recycling Centre and a Transfer/Bulking Station. This relates well to the Overall Strategy and Core Strategy Policy for minimising "waste miles". **Cumbria Minerals and Waste Site Allocations DPD** – Allocates sites for mineral working and waste facilities. The HRA for this document stated that there were 13 sites in the whole of the county that would require an Appropriate Assessment at project stage but that the policies themselves were unlikely to have negative effects on the integrity of any of the sites. The mitigation measures that are considered likely to be needed are common place and could form the conditions of the planning application.
Is there risk of a significant effect in combination?	As all of the above plans are planning for a greater amount of development in each of the plan areas it is likely that there could be a significant effect on the integrity of the site. A separate HRA screening report will be prepared in tandem with the Site Allocations DPD.

Esthwaite Water Ramsar Site



Name	Esthwaite Water
Designation	Ramsar Site
Area (ha)	137.4
Qualifying features	A good example of a mesotrophic lake, with a well-developed hydrosere. Important for aquatic invertebrates and pondweed species, and is the only known site for slender naiad in England and Wales
SSSIs within the site	Esthwaite Water SSSI
Comments on Nature	Eutrophication, particularly as a result of aquaculture, has been a problem. This is being addressed.

Conservation Importance	Threats recorded on the Ramsar site database are: Unspecified agricultural runoff Unspecified pollution Domestic sewage pollution Eutrophication
Key Environmental Conditions to Support Site Integrity	Conditions ***not*** within Copeland's control •Establishment of suitable water quality •Prevention of further nutrient enrichment •Maintenance of appropriate water levels Conditions within Copeland's control •Minimal pollution
Air Quality Issues	This is an aquatic environment so there are no critical levels or loads for air pollutants. Atmospheric nitrogen can cause eutrophication and an increase in nitrogen deposition on the water would exacerbate the existing problem. The aquatic plant, Slender naiad, is sensitive to eutrophication and acidification of the lake water so there will be a need to ensure than minimal nitrogen and acid deposition arises from the plan area. Atmospheric acid and nitrogen are constituents of vehicle emissions. The main roads in the area are the A591, A590, A593 and A592. The potential for an increase in traffic on these roads will have to be taken into account in the HRA Screening Reports for the Site Allocations DPD and planning applications for any nuclear or other major development.
Water Resource and Wastewater Treatment Issues	*Wastewater* –The wastewater treatment works in Millom is said to be able to accommodate the growth anticipated in the Core Strategy. In addition, contamination with raw sewage from the plan is unlikely to occur due to the topography between the plan are and the site. Water Resources – There are no plans to source drinking water from the South Copeland area. A drop in the water table is not listed as a threat to the integrity of the site.
Possible impacts arising from the plan	The topography between Esthwaite Water and Copeland means that over capacity Wastewater Treatment Works in the plan area are unlikely to threaten the water quality of this lake. Potentially significant negative impacts Air, water and ground pollution as the result of an increase in development. Pollution deposited from the air could reach the water body through being deposited directly onto the surface of the water or deposition onto the surrounding land and carried to the lake.
<u>Source</u> *Pathway* **Impact**	<u>Increased tourism and access</u> could lead to <u>increased traffic movement</u> in the South Copeland/Mid Copeland area resulting in **more air pollution** that would *travel on the prevailing wind towards the site.*
Policies that could potentially have a negative impact	An increase in housing and employment development anywhere in the borough could contribute to an increase in air pollution over the so the following policies could have a negative impact on the site: **ST1** – Support energy, economic and housing development as well as services and recreational facilities. **ST2 -** facilitate growth in the local economy and associated growth in demand for housing and services. Support for new nuclear generating capacity and essential infrastructure. **ST3** – In pursuit of economic regeneration and growth. **ER1** – Support for nuclear new build – whilst the operational phase should be

	reasonably clean with regards to emissions, the construction phase has the potential to have a negative impact. **ER2** – Support for renewable energy developments **ER3** – Identify sites for NNB construction workers accommodation, encourage development of new educational facilities. **ER4** – Allocating land for economic development over the plan period at a rate exceeding the take up rate of the past. **ER7** – Supporting the continued growth of Whitehaven. Encourage evening and night time uses. **ER8** – Enhancing the retail function of the town centre and improving the tourism offer. Developments should provide parking both for the development and the town centre. Conversion of vacant floors over shops into residential accommodation. Redrawing the town centre boundary to reflect the anticipated growth and development in the area. **ER9** – Town centre improvements will be encouraged in the Key Service Centres to attract more visitors. **ER10** – Expand tourism outside the Lake District boundaries. **ER11** – Supporting new and expanding employment sectors. Supporting the development of commercial units. **SS1** – Allocation of housing sites, renovation and improvement of existing housing stock, demolition and redevelopment schemes. **SS2** – Housing allocations to meet a baseline requirement of 230-300 dwellings per year. **SS4 -** Encouraging the provision of good quality services and facilities **T1** – Transport improvements including new Pow Beck Spine Road, new Eastern relief road, improvements to A595 and A5086. Better connections will be sought to the A66, M6, A595 etc. Parking strategy will set out guidance for incorporating car parking in new developments. **ENV1 -** Support for new flood defence measures to protect against both tidal and fluvial flooding in the borough, including appropriate land management as part of a catchment wide approach. **ENV2** – Support for energy generating developments which require a coastal location. **ENV4** – Supporting proposals for heritage led regeneration. **ENV5 -** Development proposals, where necessary, will be required to include landscaping schemes that retain existing landscape features, reinforce local landscape character and mitigate against any adverse visual impact.
Policies that eradicate/lessen the risk posed	**ST1 –** Protect and enhance sites of nature conservation and biodiversity value. Encourage creation of new areas of green infrastructure. Ensure development minimises air, ground and water pollution. **ST2** – Growth should be concentrated in the settlements focussing the largest scale development in sustainable locations. **ST4 -** Development proposals should provide, or contribute to the provision of environmental requirements on or off site. **ER1** – The Council will work with partners to identify whether a high-level waste repository can be justified and that there are no negative impacts on, inter alia, the environment. The Council will seek to ensure that all investment in the nuclear sector is accompanied by financial or in-kind contributions to mitigate any potentially detrimental impacts. **ER2** – Support for renewable energy generating developments at locations which minimise environmental impacts so that they are within acceptable

	limits. **ER3** – Ensure that any new energy infrastructure minimises potential impacts on biodiversity. **ER6** – Presumption in favour of employment sites in sustainable locations. **ER10 -** Wherever possible tourism providers will be required to ensure that accommodation and attractions are well connected to other tourist destinations and amenities, particularly by public transport, walking and cycling. Locate new tourist accommodation, facilities and attractions where there is proven capacity for additional visitors to be accommodated without adverse environmental or amenity impacts. **T1** - The Council will support transport improvements that maximise accessibility for all modes of transport but particularly by foot, cycle and public transport. **T2** - Developments which seek to extend or improve connectivity through existing and emerging telecommunications in all parts of the Borough will be supported (subject to appropriate safeguards) – minimising the need to travel. **ENV1** – Planting trees to control flood risk will have a positive impact on air quality **ENV3 -** Protecting and extending woodland habitat will have a positive impact on air quality. **ENV5**– On site mitigation to take place where the positive impacts of the development clearly outweigh the negative impact on the landscape. Encouraging green infrastructure will have a positive impact on air quality. **ENV6 -** Identifying potential for a community forest to the South and West of Egremont. A large number of trees planted in the borough would help to lower the levels of pollution in the air over the longer term. **DM1 -** Proposals involving the use, storage and processing of radioactive material should include a strategy for the long term management and safety of the site and material. The Council and other Key stakeholders should be fully involved in any Environmental Assessment undertaken. The Council will seek an appropriately scoped, scales and phased package of community benefits to minimise the environmental impacts of the nuclear development. **DM2** – Renewable energy development will have no adverse impact on biodiversity. Proposals should be developed with key stakeholders (which will include biodiversity organisations). **DM5** – Proposals for any new nuclear facilities should be submitted with long term management plans that will minimise any harmful effects. **DM22 -** Where necessary the potential transport implications of development will be required to be supported by a Transport Assessment and a Travel Plan to manage any significant transport implications. **DM25** - All development proposals must take into account any likely significant effects on the internationally important sites both within the borough and within a 20km radius of the borough boundary as well as those that are hydrologically linked to the development plan area.
Is There a Risk of a Significant Effect?	There is the risk of a greater amount of diffuse air pollution. However, there are policies in the Core Strategy that encourage a greater amount of green infrastructure and sustainable transport options. It is considered that this document does all that it can at a very strategic level. Until more information is available i.e. at site allocations or project stage it will be very difficult to carry out an appropriate assessment.
Possible Impacts	The planned North West Coastal Trail would pass nearby.

Arising from Other Plans and Projects	**Proposals within West Cumbria Masterplan**– Development of the Westlakes Research Institute at the Science and Technology Park. Development of the National Nuclear Skills Academy at Lillyhall, the Dalton Institute (lab facilities)at Westlakes, further investment in the employment sites at Leconfield and Bridgend. A 'health campus' on the current hospital site and new University of Cumbria facilities at Lillyhall. New National Nuclear Laboratory headquarters in West Cumbria. **North West RSS -** Drigg coast falls within North West coast area of search for a regional park and a planned North West Coastal Trail. There is potential for increased visitor pressure. **Allerdale LDF Core Strategy Issues and Options** – additional 267-350 dwellings per year (equating to an extra 4000-5250 dwellings over the plan period). Some limited housing development in rural local centres but mainly focused in more sustainable locations i.e. Workington, Maryport, Aspatria, Cockermouth, Wigton etc. **Lake District National Park Core Strategy** – 900 additional dwellings in the period to 2025 (50% in rural service centres, 20% in villages and 30% in clusters and the open countryside). There will be an additional 9.2ha of employment land and it is acknowledged that the Park needs one or more additional nationally significant visitor attractions. **Lake District National Park Site Allocations Preferred Options** – All employment land allocated will be in the Rural Service Centres. Esthwaite Water Ramsar Site falls into the South Distinctive Area which will accommodate 14% of all development in the LDNP. **Carlisle LDF Core Strategy Issues and Options** – Currently no policy direction offered. Carlisle has been designated as a growth point though so it can be reasonably expected that there will be a significant amount of additional housing and employment development over the plan period. **Eden Adopted Core Strategy** – Focus new build housing in Key and Local Service Centres whilst allowing for meeting essential needs in smaller settlements. The plan takes the RSS housing target of 239 additional dwellings per annum to 2025 (over 3100 units in total). 50ha of employment land will be made available to 2025. **Barrow Port Area Action Plan** – 925 additional dwellings in the Action Plan Area to 2021. Additional leisure facilities including marina and boat servicing area, Waterfront hotel, Water sports centre and very limited amount of retail. Improving access to the operational port from road and sea to support new opportunities to increase the proportion of freight moved by sea. Development of Waterfront Business Park as a major new business and employment location (24.5ha site). **South Lakeland LDF Core Strategy** – 55% of new housing and employment development will be in the Principal Service Centres, 13% in Key Service Centres, 21% in Local Service Centres and 11% in the smaller villages and hamlets. Housing target is 469 additional dwellings per year equating to nearly 6100 to 2025. 21ha of employment development to be accommodated in Kendal to 2025, 12ha to be accommodated in Ulverston and Furness but overall 4 ha of employment land will be allocated per annum between 2010 and 2025 equating to 60ha over the plan period. **Cumbria Local Transport Plan 3** – Support for the upgrading of the A595, A590, A5094 and A66 as well as any improvements needed to support growth in the low carbon energy sector. Increased bus services in rural areas.

	Improvement to the Cumbria West Coast Railway. Carlisle Northern Development Route will be completed in 2012. **Cumbria Minerals and Waste LDF Core Strategy** – no regional waste facilities to be located in Cumbria. At least one new waste facility will be needed in the south of the county. Proposes a decentralised network of waste facilities with a preference for sites which could accommodate more than one type of facility, for example, a Household Waste Recycling Centre and a Transfer/Bulking Station. This relates well to the Overall Strategy and Core Strategy Policy for minimising "waste miles". **Cumbria Minerals and Waste Site Allocations DPD** – Allocates sites for mineral working and waste facilities. The HRA for this document stated that there were 13 sites in the whole of the county that would require an Appropriate Assessment at project stage but that the policies themselves were unlikely to have negative effects on the integrity of any of the sites. The mitigation measures that are considered likely to be needed are common place and could form the conditions of the planning application. **Shoreline Management Plan 2** – In the Duddon Estuary area the approach is to maintain the line, where there are assets to protect, and to let the shore continue to erode where there are limited assets.
Is there risk of a significant effect in combination?	As all of the above plans are planning for a greater amount of development in each of the plan areas it is likely that there could be a significant effect on the integrity of the site. A separate HRA screening report will be prepared in tandem with the Site Allocations DPD.

Conclusion

Any development that could adversely affect the integrity of a European Wildlife Site, directly or indirectly, would not be in accordance with the Core Strategy or Development Control policies. Sites will be identified in the subsequent Site Allocations Policies and Proposals Maps Development Plan Documents. These will be subordinate to the Core Strategy and will, themselves, require Habitats Regulations Assessment.

The assessment has not identified any likely significant effects that the Core Strategy and Development Management Policies would have on the integrity of any of the European sites. It does, however, identify where further Habitats Regulations Assessment and possibly Appropriate Assessments are likely to be needed when the Site Allocations Policies and associated maps are prepared. Site by site Assessments will need to be considered when planning application proposals come forward. The Development Management Policies document makes it clear that any development that would be likely to have an adverse impact on the integrity of a European Wildlife Site would not be supported.

New nuclear development and the construction of some energy related infrastructure could have a negative impact on any or all of the sites. However, the Council will not be the planning authority for this type of development. An appropriate assessment will have to be carried out at planning application stage with consideration given to the matter in the Local Impact Report.

A significant amount of housing development will take place over the plan period but the preferred sites for that development have not been allocated yet. The Council will prepare for a Site Allocations DPD and this document will be accompanied by its own HRA Screening Report.

APPENDIX 1 – AIR POLLUTANTS

Pollutant	Sources		Environmental Effects
	Natural	**Anthropogenic**	
Ammonia (NH_3)	• Decomposition and volatisation of farm animal wastes and wastes from wild animals and seabirds.	• Decomposition and volatilisation of farm animal wastes. Increased concentrations with the intensification of farming. • Direct volatilisation from mineral fertilisers, agricultural crops, sewage and industrial processes.	• Soil and freshwater acidification • Eutrophication of oligotrophic ecosystems • Increases the effectiveness of nitrous oxides and methane as greenhouse gases • Modifies the deposition patterns of SO_2 and NO□.
Sulphur Dioxide (SO_2)	• Releases from volcanoes, oceans, biological decay and forest fires.	• Domestic fuel combustion • Industry • Electricity generation	• Soil and freshwater acidification on higher ground, having been transported from urban areas.
Nitrogen Oxides (NO□)	• Lightning • Microbial processes in soils (to a small extent)	• Power stations • Motor vehicles • Industrial combustion • Domestic fuel combustion	• Eutrophication of oligotrophic ecosystems
Heavy Metals	• Volcanic emissions • Forest fires • Sea salt • Evaporation from the sea surface	• Electronic components, machinery and materials • Power generation • Smelting • Incineration • Internal combustion engines	• Toxic to organisms at low levels • Inhibition of growth • Suppression of oxygen consumption • Impairment of reproduction • Impairment of tissue repair
Halogens (HCl and HF)	• Sea salt • Marine microbiological processes	• Industrial processes • Fertiliser production • Coal burning • Glass, ceramics and brick manufacture	• Distortion of leaf shape, yellowing and death of tissues in sensitive species • Leaf drop • Fluorosis in mammals and possibly in invertebrates • Contributes to acid deposition
Persistent Organic Pollutants (DDT, PCBs, PAHs etc.)		• DDT – pesticide use • PCBs – incineration and landfill of waste containing transformers in older electrical equipment • PAHs – burning of coal	• DDT - Lethality in birds along with egg shell thinning • PAHs toxic to aquatic organisms and invertebrates and it is thought that the breeding success of fish can be affected

		and wood, coke and diesel.	• PCBs – inhibit growth in some plant species
Particulates	• Erosion of soils • Volcanoes • Sea salt	• Combustion processes (fly-ash and soot) • Heavy metal particles from industrial and transport processes • Wear of tyres and brakes • Quarrying • Construction and demolition • Cement manufacture • Fertilisers	• Dusts covering vegetation, occluding stomata and stopping photosynthesis • Deposition of regional pollutants on clean sites causing acidification and eutrophication
Nitrogen Deposition	• Decomposition and volatisation of wastes from wild animals and seabirds. • Lightning • Microbial processes in soils (to a small extent)	• Decomposition and volatilisation of farm animal wastes. Increased concentrations with the intensification of farming. • Direct volatilisation from mineral fertilisers, agricultural crops, sewage and industrial processes. • Power stations • Motor vehicles • Industrial combustion • Domestic fuel combustion	Acidification of soils and water Eutrophication of oligotrophic ecosystems Damage to bryophyte communities
Acid Deposition	• Decomposition and volatisation of farm animal wastes and wastes from wild animals and seabirds. • Releases from volcanoes, oceans, biological decay and forest fires. • Lightning • Microbial processes in soils (to a small extent)	• Decomposition and volatilisation of farm animal wastes. Increased concentrations with the intensification of farming. • Direct volatilisation from mineral fertilisers, agricultural crops, sewage and industrial processes. • Domestic fuel combustion • Industry • Electricity generation • Motor vehicles • Industrial combustion • Domestic fuel	• Reproduction in both birds and plants is sensitive to acidification. In birds the egg shell can thin and become unviable. In plants, seed production and hence germination suffers. • Crustaceans do not survive in acidified waters • Bryophytes and lichens are also sensitive

		combustion	
Ozone		Secondary pollutant formed by the action of sunlight on oxides of nitrogen and volatile organic compounds (mainly from vehicles, solvents and industry).	There is evidence to show that a wide variety of plant species in a wide variety of habitats are sensitive to ozone. Effects include visible injury to the plant, early senescence of leaves and reduction of biomass.

Air Pollution Readings – To be added separately (see separate spreadsheet)

Appendix 1 - Pollution Evidence Base

Site	Site Designation	Grid Reference	Annex I/II Habitats/Species Present	Ammonia		Sulphur Dioxide		Nitrogen Oxides		Heavy Metals		Halogens (HCL HF)		Persistant Organic Pollutants		Particulates		Nitrogen Deposition		Acid Deposition		Ozone	
				Critical Level (µg/m³)	Current load (µg)	Critical Level (µg/m³)	Current load (µg)	Critical Load (µg/m³)	Current load (µg)	Critical Load (µg/L)	Current load (µg/L)	Critical Level (µg/m³)	Current Level (µg)	Critical Level (µg/m³)	Current Level (µg)	Critical Load (kg/ha/ year)	Current load (µg)	Critical Load (kg/ha/ year)	Current load (kg/ ha/year)	Critical Load (keq/ha/ year)	Current load (keq/ ha/year)	Critical Load (ppb hours)	Current load (ppb hours)
Borrowdale Woodland Complex	SAC	NY235129	Old Sessile Oak Woods with Ilex and Blechnum in the British Isles (91A0)	1	0.5	20	0.7	30	6.3	There is currently only critical load data for human health impacts. The DEFRA website provides readings on the levels of the various heavy metals present at one site in the Lake District (Cockley Beck - NY247015). Arsenic - 0.22µg/L Cadmium - 0.03µg/L Chromium - 0.17µg/L Copper - 1.02µg/L Nickel 58 - 0.22µg/L Nickel 60 - 0.30µg/L Lead - 0.82µg/L Selenium - 0.16µg/L Vanadium 0.42µg/L Zinc - 7.49µg/L Readings taken in July 2011	There is currently no critcial level data for these compounds. Estimates for Hydrogen Fluoride that will cause harm to plants are: <5µg/m³ over 1 day period <0.5µg/m³ over 1 week period <0.2-0.3µg/m³ over 1 month period <0.2-0.3µg/m³ over 3 month period. These estimates are the same for all habitat types. Bird species are not affected by HF deposition. Small mammals are affected but there are no international sites with small mammal qualifying features within the plan areea or within 20km of the plan area boundary.	DDT, DDE and DDD are organic pesticides and cause lethality in birds and thinning of eggshells resulting in problems reproducing. There is a lack of information on the effects of these complounds on plant life. The environmental criteria states that levels of 2mg/dry kg of earth is likely to cause damage to the ecosystem. For estuarine and aqautic environments the threshold drops significantly to 0.025µg/litre because of the increased sensitivity of aquatic species to these pollutants. The use of these compounds has been banned but they do not degrade easily and are therefore still present in the environment, although concentrations should not increase . The use of PCBs has also been banned but these compounds are still present in sewage sludge, old electrical equipment and scrap metal recycling (these are County Council issues). PCBs have been measured in the air close to hazardous waste sites. Levels of over 0.51mg/dry jkg of soil are likely to cause ecosystem damage. PCB have the potential to damage aquatic species but this varies according to PAHs are acutely toxic to a	Particulates are dusts and include cement, fly ash, quarry dust and soot. All dusts settling on a plant will hav the direct effect of reducing the light available for photosynthesis and the occlusion of stomata, leading to interference with respiration and levels of water evaporation from the leaves. Chemically, cement and limestone quarry dusts are strongly alkaline, which will have a direct effect on acid soils and on the pH of aquatic environments. Bryophytes and lichens are particularly sensitive to changes in pH. Soot adheres to leaves because of its organic content and can contain toxic heavy metals. Presently most soot comes from deisel combustion engines. For cement and flyash effects have been detected at deposition levels of 0.5g/m2/day and above . There are no estimates for the other dusts mentioned here.	10-20	40.7	2.43	3.65	5000	2250
			Bog Woodland (91D0)	1	0.5	20	0.7	30	6.3									10-20	40.7	2.43	3.65	5000	2250
			Siliceous rocky slopes with chasmophytic vegetation. (8220)	1	0.5	20	0.7	30	6.3									5-10	27	0.35	2.53	3000	1897
Clints Quarry (Moota)	SAC	NY161357	Ponds hosting Great Crested Newts	N/A	2.2	N/A	0.6	N/A	7.6									N/A	22.0	N/A	1.81	N/A	1955
Drigg Coast	SAC	SD071960	Estuaries	N/A	1.2	N/A	0.7	N/A	6.4									N/A	15.4	N/A	1.35	N/A	N/A
			Atlantic decalcified fixed dunes (Calluno-Ulicetea) (2150)	3	1.2	20	0.7	30	6.4									N/A	15.4	3.17	1.35	N/A	N/A
			Dunes with Salix repens ssp. Argentea (Salicion arenariae) (2170)	3	1.2	20	0.7	30	6.4									8-15	15.4	3.17	1.35	N/A	N/A
			Mudflats and sandflats not covered by seawater at low tide	N/A	1.2	N/A	0.7	N/A	6.4									N/A	15.4	N/A	1.35	N/A	N/A
			Salicornia and other annuals colonising the mud and sand	N/A	1.2	N/A	0.7	N/A	6.4									N/A	15.4	N/A	1.35	N/A	N/A
			Atlantic Salt Meadows (Glauco-Puccinellietalia maritimae) (1330)	3	1.2	20	0.7	30	6.4									20-30	15.4	0	1.35	N/A	N/A
			Embryonic Shifting Dunes (2110)	3	1.2	20	0.7	30	6.4									10-20	15.4	3.17	1.35	N/A	N/A
			Shifting dunes along the shoreline with Ammophila arenaria (white dunes) (2120)	3	1.2	20	0.7	30	6.4									10-20	15.4	3.17	1.35	N/A	N/A
			Fixed dunes with herbaceous vegetation (2130)	3	1.2	20	0.7	30	6.4									N/A	15.4	3.17	1.35	N/A	N/A
			Humid dune slacks (2190)	3	1.2	20	0.7	30	6.4									10-20	15.4	3.17	1.35	N/A	N/A
Duddon Mosses	SAC	SD223853	Active Raised Bogs (7110)	1	1.3	20	0.8	30	7.4									5-10	19.6	0.72	1.73	3000	1599
			Degraded Raised Bogs still capable of natural regeneration (7120)	1	1.3	20	0.8	30	7.4									5-10	19.6	0.72	1.73	3000	1599
Lake District High Fells	SAC	NY303318	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoeto-Nanojuncetea (3130)	N/A	0.9	N/A	0.6	N/A	6.7									N/A	29.5	N/A	2.65	N/A	2263
			Northern Atlantic wet heaths with Erica tetralix (4010)	3	0.9	20	0.6	30	6.7									5-15	29.5	0.7	2.65	3000	2263
			European Dry Heaths (4030)	3	0.9	20	0.6	30	6.7									5-15	29.5	0.7	2.65	3000	2263
			Alpine and Boreal Heaths (4060)	3	0.9	20	0.6	30	6.7									5-15	29.5	0.7	2.65	3000	2263
			Juniperus communis formations on heaths or calcareous grasslands	3	0.9	20	0.6	30	6.7									5-15	29.5	0.7	2.65	3000	2263
			Siliceous alpine and boreal grasslands	3	0.9	20	0.6	30	6.7									5-15	29.5	0.7	2.65	3000	2263
			Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels	3	0.9	20	0.6	30	6.7									5-15	29.5	0.7	2.65	3000	2263
			Blanket bogs (7130)	1	0.9	20	0.6	30	6.7									5-10	29.5	1.19	2.65	3000	2263
			Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani) (8110)	3	0.9	20	0.6	30	6.7									5-10	29.5			3000	2263
			Siliceous rocky slopes with chasmophytic vegetation (8220)	3	0.9	20	0.6	30	6.7									5-10	29.5	0.35	2.65	3000	2263
			Old Sessile Oak Woods with Ilex and Blechnum in the British Isles (91A0)	1	0.9	20	0.6	30	6.7									10-20	45.9	2.71	3.98	5000	2725
			Species -rich Nardus grassland, siliceous substrates in mountain areas (and submountain areas in continental Europe) (6230)	3	0.9	20	0.6	30	6.7									5-15	29.5	0.7	2.65	3000	2263
			Alkaline fens (7230)	3	0.9	20	0.6	30	6.7									10-15	29.5	0.35	2.65	3000	2263
			Calcareous rocky slopes with chasmophytic vegetation (8210)	3	0.9	20	0.6	30	6.7									5-10	29.5	0.35	2.65	3000	2263
			Slender green feather-moss Drepanocladus (Hamatocaulis) vernicosus - SPECIES	1	0.9	20	0.6	30?	6.7?									5-10	29.5	1.19	2.65	3000	2263
Morecambe Bay	SAC	SD371697	Estuaries	N/A	1.7	N/A	0.9	N/A	8.8									N/A	20.6	N/A	1.76	N/A	1626
			Mudflats and sandflats not covered by seawater at low tide	N/A	1.7	N/A	0.9	N/A	8.8									N/A	20.6	N/A	1.76	N/A	1626
			Large shallow inlets and bays	N/A	1.7	N/A	0.9	N/A	8.8									N/A	20.6	N/A	1.76	N/A	1626
			Perennial vegetation of stony banks	3	1.7	20	0.9	30	8.8									5-10	20.6	4.0	1.76	3000	1626
			Salicornia and other annuals colonising the mud and sand	N/A	1.7	N/A	0.9	N/A	8.8	There is currently only critical load data for	There is currently no critcial level data for					Particulates are dusts and include cement, fly ash,		N/A	20.6	N/A	1.76	N/A	1626

Site	Site Designation	Grid Reference	Annex I/II Habitats/Species Present	Ammonia		Sulphur Dioxide		Nitrogen Oxides		Heavy Metals		Halogens (HCL HF)		Persistant Organic Pollutants		Particulates		Nitrogen Deposition		Acid Deposition		Ozone	
				Critical Level (µg/m³)	Current load (µg)	Critical Level (µg/m³)	Current load (µg)	Critical Load (µg/m³)	Current load (µg)	Critical Load (µg/L)	Current load (µg/L)	Critical Level (µg/m³)	Current Level (µg)	Critical Level (µg/m³)	Current Level (µg)	Critical Load (kg/ha/ year)	Current load (µg)	Critical Load (kg/ha/ year)	Current load (kg/ ha/year)	Critical Load (keq/ha/ year)	Current load (keq/ ha/year)	Critical Load (ppb hours)	Current load (ppb hours)
			Atlantic Salt Meadows (Glauco-Puccinellietalia maritimae) (1330)	3	1.7	20	0.9	30	8.8	human health impacts. The DEFRA website provides readings on the levels of the various heavy metals present at one site in the Lake District (Cockley Beck - NY247015). This data is provided in a separate table in Appendix 2.		these compounds. Estimates for Hydrogen Fluoride that will cause harm to plants are: <5µg/m³ over 1 day period <0.5µg/m³ over 1 week period <0.2-0.3µg/m³ over 1 month period <0.2-0.3µg/m³ over 3 month period. These estimates are the same for all habitat types. Bird species are not affected by HF deposition. Small mammals are affected but there are no international sites with small mammal qualifying features within the plan areea or within 20km of the plan area boundary.			quarry dust and soot. All dusts settling on a plant will hav the direct effect of reducing the light available for photosynthesis and the occlusion of stomata, leading to interference with respiration and levels of water evaporation from the leaves. Chemically, cement and limestone quarry dusts are strongly alkaline, which will have a direct effect on acid soils and on the pH of aquatic environments. Bryophytes and lichens are particularly sensitive to changes in pH. Soot adheres to leaves because of its organic content and can contain toxic heavy metals. Presently most soot comes from deisel combustion engines. For cement and flyash effects have been detected at deposition levels of 0.5g/m2/day and above . There are no estimates for the other dusts mentioned here.	20-30	20.6	4.0	1.76	3000	1626
			Shifting dunes along the shoreline with Ammophila arenaria (white dunes) (2120)	3	1.7	20	0.9	30	8.8									10-20	20.6	4.79	1.76	3000	1626
			Fixed dunes with herbaceous vegetation (grey dunes) (2130)	3	1.7	20	0.9	30	8.8									8-15	20.6	4.79	1.76	3000	1626
			Humid dune slacks (2190)	3	1.7	20	0.9	30	8.8									10-20	20.6	4.79	1.76	3000	1626
			Sandbanks which are slightly covered by seawater all of the time	N/A	1.7	N/A	0.9	N/A	8.8									N/A	20.6	N/A	1.76	N/A	1626
			Coastal lagoons	N/A	1.7	N/A	0.9	N/A	8.8									N/A	20.6	N/A	1.76	N/A	1626
			Reefs	N/A	1.7	N/A	0.9	N/A	8.8									N/A	20.6	N/A	1.76	N/A	1626
			Embryonic Shifting Dunes (2110)	3	1.7	20	0.9	30	8.8									10-20	20.6	4.79	1.76	3000	1626
			Atlantic decalcified fixed dunes (Calluno-Ulicetea) (2150)	3	1.7	20	0.9	30	8.8									8-10	20.6	4.79	1.76	3000	1626
			Dunes with Salix repens ssp. Argentea (Salicion arenariae) (2170)	3	1.7	20	0.9	30	8.8									8-15	20.6	4.79	1.76	3000	1626
			Great Crested Newt	N/A	1.7	N/A	0.9	N/A	8.8									N/A	20.6	N/A	1.76	N/A	1626
North Pennines Dales Meadows	SAC	NY931256	Mountain Hay Meadows (6520)	3	0.8	20	0.8	30	7.1	Arsenic - 0.22µg/L Cadmium - 0.03µg/L Chromium - 0.17µg/L Copper - 1.02µg/L Nickel 58 - 0.22µg/L Nickel 60 - 0.30µg/L Lead - 0.82µg/L Selenium - 0.16µg/L Vanadium 0.42µg/L Zinc - 7.49µg/L								10-20	23.1	4.76	2.07	3000	1849
			Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae)	3	0.8	20	0.8	30	7.1									20-30	23.1	4.76	2.07	3000	1849
River Derwent and Bassenthwaite Lake	SAC	NY262207	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoeto-Nanojuncetea (3130)	N/A	1.6	N/A	0.6	N/A	7.7	Readings taken in July 2011								N/A	19.6	N/A	1.68	N/A	1775
			Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	N/A	1.6	N/A	0.6	N/A	7.7									N/A	19.6	N/A	1.68	N/A	1775
			Marsh Fritillary butterfly	N/A	1.6	N/A	0.6	N/A	7.7									N/A	19.6	N/A	1.68	N/A	1775
			Sea Lamprey	N/A	1.6	N/A	0.6	N/A	7.7					Endocrine disruption can be caused by the presence of Organochlorine pesticides and PCBs. No data is available for these types of pollutants.				N/A	19.6	Acidification can affect fish in the early stages of their lives. Reading for acidification is 3.11.		N/A	1775
			Brook Lamprey	N/A	1.6	N/A	0.6	N/A	7.7									N/A	19.6			N/A	1775
			River Lamprey	N/A	1.6	N/A	0.6	N/A	7.7									N/A	19.6			N/A	1775
			Atlantic Salmon	N/A	1.6	N/A	0.6	N/A	7.7									N/A	19.6			N/A	1775
			Otter	N/A	1.6	N/A	0.6	N/A	7.7									N/A	19.6	There is evidence to show that acidification may be a cause of reduced otter populations in some parts of the UK. Reading of 3.11 taken in this location		N/A	1775
			Floating water plantain	N/A	1.6	N/A	0.6	N/A	7.7									N/A	19.6	N/A	1.68	N/A	1775
River Ehen	SAC	NY031144	Freshwater pearl mussels	N/A	1.5	N/A	0.7	N/A	7.6									N/A	16.5	N/A	1.39	N/A	1737
			Atlantic Salmon	N/A	1.5	N/A	0.7	N/A	7.6									N/A	16.5	N/A	1.39	N/A	1737
Roudsea Wood and Mosses	SAC	SD347807	Active Raised Bogs (7110)	3	1.0	20	0.8	30	9.3									5-10	17.4	0.66	1.55	N/A	N/A
			Degraded Raised Bogs still capable of natural regeneration (7120)	3	1.0	20	0.8	30	9.3									5-10	17.4	0.66	1.55	N/A	N/A
			Tilio-Acerion forests of slopes, screes and ravines (9180)	3	1.0	20	0.8	30	9.3									10-20	27.2	4.41	2.28	N/A	N/A
			Taxus baccata woods of the British Isles	3	1.0	20	0.8	30	9.3									5-15	27.2	4.41	2.28	N/A	N/A
Subberthwaite, Blawith and Torver Low Commons	SAC	SD269896	Transition mires and quaking bogs (7140)	1	0.9	20	0.8	30	7.3									5-10	17.9	0.92	1.61	3000	1752
			Depressions on peat substrates of the Rhynchosporion	1	0.9	20	0.8	30	7.3	There is currently only critical load data for		There is currently no critcial level data for				Particulates are dusts and include		5-10	17.9	0.92	1.61	3000	1752

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				Critical Level (µg/m³)	Current load (µg)	Critical Level (µg/m³)	Current load (µg)	Critical Load (µg/m³)	Current load (µg)	Critical Load (µg/L)	Current load (µg/L)	Critical Level (µg/m³)	Current Level (µg)	Critical Level (µg/m³)	Current Level (µg)	Critical Load (kg/ha/ year)	Current load (µg)	Critical Load (kg/ha/ year)	Current load (kg/ ha/year)	Critical Load (keq/ha/ year)	Current load (keq/ ha/year)	Critical Load (ppb hours)	Current load (ppb hours)
Wast Water	SAC	NY164062	Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or of the Isoeto-Nanojuncetea (3130)	N/A	0.5	N/A	0.7	N/A	6.2	human health impacts. The DEFRA website provides readings on the levels of the various heavy metals present at one site in the Lake District (Cockley Beck - NY247015). This data is provided in a separate table in Appendix 2.		these compounds. Estimates for Hydrogen Fluoride that will cause harm to plants are: <5µg/m³ over 1 day period <0.5µg/m³ over 1 week period <0.2-0.3µg/m³ over 1 month period <0.2-0.3µg/m³ over 3 month period. These estimates are the same for all habitat types. Bird species are not affected by HF deposition. Small mammals are affected but there are no international sites with small mammal qualifying features within the plan areea or within 20km of the plan area boundary.			cement, fly ash, quarry dust and soot. All dusts settling on a plant will hav the direct effect of reducing the light available for photosynthesis and the occlusion of stomata, leading to interference with respiration and levels of water evaporation from the leaves. Chemically, cement and limestone quarry dusts are strongly alkaline, which will have a direct effect on acid soils and on the pH of aquatic environments. Bryophytes and lichens are particularly sensitive to changes in pH. Soot adheres to leaves because of its organic content and can contain toxic heavy metals. Presently most soot comes from deisel combustion engines. For cement and flyash effects have been detected at deposition levels of 0.5g/m2/day and above . There are no estimates for the other dusts mentioned here.	N/A	17.2	N/A	N/A	N/A	1803
Yewbarrow Woods	SAC	SD347872	Taxus baccata woods of the British Isles	3	1.0	20	0.8	30	7.6									5-15	30.8	1.42	2.63	5000	1993
			Juniperus communis formations on heaths or calcareous grasslands	3	1.0	20	0.8	30	7.6									15-25	21	4.73	1.9	3000	1630
			Old Sessile Oak Woods with Ilex and Blechnum in the British Isles (91A0)	1	1.0	20	0.8	30	7.6									10-20	30.8	1.42	2.63	5000	1993
Morecambe Bay	SPA	337200, 475400	Sandwich Tern (Strena Sandvicensis) - 3% of GB breeding population	N/A	1.7	N/A	0.9	N/A	8.8	Arsenic - 0.22µg/L Cadmium - 0.03µg/L Chromium - 0.17µg/L Copper - 1.02µg/L Nickel 58 - 0.22µg/L Nickel 60 - 0.30µg/L Lead - 0.82µg/L Selenium - 0.16µg/L Vanadium 0.42µg/L Zinc - 7.49µg/L Readings taken in July 2011				There is evidence of reproductive impairment in birds eating fish that are contaminated with organochlorine pesticides. These pollutants are also known to cause egg shell thinning in birds of prey. There may be similar effects for these birds although there is no evidence as yet to support or contradict this.				N/A	20.6	Increase in acidity increases human exposure to toxic metals. There is no evidence as yet to suggest that this is the same in birds but equally there is none to suggest that it isn't. There is evidence to suggest that acidification could lead to the thinning of egg shells, which may reduce reproductive success. Current Load for Morecambe Bay - 1.76	N/A	1626
			Northern Pintail (Anas Acuta) 4.7% of NW European population	N/A	1.7	N/A	0.9	N/A	8.8									N/A	20.6			N/A	1626
			Pink footed goose (Anser branchyrhynchus) - 1.1% of the global population	N/A	1.7	N/A	0.9	N/A	8.8									N/A	20.6			N/A	1626
			Ruddy Turnstone (Areanaria interpres) - 2.4% of the East Atlantic flyway population	N/A	1.7	N/A	0.9	N/A	8.8									N/A	20.6			N/A	1626
			Dunlin (Calidris alpina) - 3.8% of the East Atlantic flyway population	N/A	1.7	N/A	0.9	N/A	8.8									N/A	20.6			N/A	1626
			Red Knot (Calidris canutus) - 8.5% of the East Atlantic flyway population	N/A	1.7	N/A	0.9	N/A	8.8									N/A	20.6			N/A	1626
			Eurasian Oystercatcher (Haematopus ostralegus) - 5.4% of the East Atlantic flyway population	N/A	1.7	N/A	0.9	N/A	8.8									N/A	20.6			N/A	1626
			Bar-tailed Godwit (Limosa lapponica) - 2.6% of the East Atlantic flyway population	N/A	1.7	N/A	0.9	N/A	8.8									N/A	20.6			N/A	1626
			Curlew (Numenius arquata) - 3.9% of the East Atlantic flyway population	N/A	1.7	N/A	0.9	N/A	8.8									N/A	20.6			N/A	1626
			Black Bellied plover or Grey Plover (Pluvialis squatarola) 1.1% of the East Atlantic flyway population	N/A	1.7	N/A	0.9	N/A	8.8									N/A	20.6			N/A	1626
			Shelduck (Tadorna tadorna) - 2.1% of the East Atlantic flyway population	N/A	1.7	N/A	0.9	N/A	8.8									N/A	20.6			N/A	1626
			Redshank (Tringa totanus) - 3.6% of the East Atlantic flyway population	N/A	1.7	N/A	0.9	N/A	8.8									N/A	20.6			N/A	1626
			Ringed Plover (Charadrius hiaticula) - 1.5% of the East Atlantic flyway population	N/A	1.7	N/A	0.9	N/A	8.8									N/A	20.6			N/A	1626
Duddon Estuary	SPA	541039N 031524W	Northern Pintail (Anas Acuta) 4.7% of NW European population	N/A	0.7	N/A	0.8	N/A	7.4					There is evidence of reproductive impairment in birds eating fish that are contaminated with organochlorine pesticides. These pollutants are also known to cause egg shell thinning in birds of prey. There may be similar effects for these birds although there is no evidence as yet to support or contradict this.				N/A	13.2	Increase in acidity increases human exposure to toxic metals. There is no evidence as yet to suggest that this is the same in birds but equally there is none to suggest that it isn't. There is evidence to suggest that acidification could lead to the thinning of egg shells, which may reduce reproductive success.	N/A	N/A
			Redshank (Tringa totanus) - 3.6% of the East Atlantic flyway population	N/A	0.7	N/A	0.8	N/A	7.4									NA	13.2			N/A	N/A
			Sandwich Tern (Strena Sandvicensis) - 3% of GB breeding population	N/A	0.7	N/A	0.8	N/A	7.4									NA	13.2			N/A	N/A

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				Critical Level (µg/m³)	Current load (µg)	Critical Level (µg/m³)	Current load (µg)	Critical Load (µg/m³)	Current load (µg)	Critical Load (µg/L)	Current load (µg/L)	Critical Level (µg/m³)	Current Level (µg)	Critical Level (µg/m³)	Current Level (µg)	Critical Load (kg/ha/ year)	Current load (µg)	Critical Load (kg/ha/ year)	Current load (kg/ ha/year)	Critical Load (keq/ha/ year)	Current load (keq/ ha/year)	Critical Load (ppb hours)	Current load (ppb hours)
			Red Knot (Calidris canutus) - 8.5% of the East Atlantic flyway population							There is currently only critical load data for human health impacts. The DEFRA website provides readings on the levels of the various heavy metals present at one site in the Lake District (Cockley Beck - NY247015). See data above.		There is currently no critcial level data for these compounds. Estimates for Hydrogen Fluoride that will cause harm to plants are: <5µg/m³ over 1 day period <0.5µg/m³ over 1 week period <0.2-0.3µg/m³ over 1 month period <0.2-0.3µg/m³ over 3 month period.						Current Load for Morecambe Bay - 1.18			
				N/A	0.7	N/A	0.8	N/A	7.4							N/A		N/A	13.2			N/A	N/A