European Site Conservation Objectives: Supplementary advice on conserving and restoring site features

Durham Coast Special Area of Conservation (SAC)
Site code: UK0030140

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About this document

This document provides Natural England's supplementary advice about the European Site Conservation Objectives relating to Durham Coast SAC. This advice should therefore be read together with the SAC Conservation Objectives.

Where this site overlaps with other European Sites, you should also refer to the separate European Site Conservation Objectives and Supplementary Advice (where available) provided for those sites.

You should use the Conservation Objectives, this Supplementary Advice and any case-specific advice given by Natural England when developing, proposing or assessing an activity, plan or project that may affect this site.

This Supplementary Advice to the Conservation Objectives presents attributes which are ecological characteristics of the designated species and habitats within a site. The listed attributes are considered to be those that best describe the site's ecological integrity and which, if safeguarded, will enable achievement of the Conservation Objectives. Each attribute has a target which is either quantified or qualitative depending on the available evidence. The target identifies as far as possible the desired state to be achieved for the attribute.

The tables provided below bring together the findings of the best available scientific evidence relating to the site's qualifying features, which may be updated or supplemented in further publications from Natural England and other sources. The local evidence used in preparing this supplementary advice has been cited. The references to the national evidence used are available on request. Where evidence and references have not been indicated, Natural England has applied ecological knowledge and expert judgement. You may decide to use other additional sources of information.

In many cases, the attribute targets shown in the tables indicate whether the current objective is to 'maintain' or 'restore' the attribute. This is based on the best available information, including that gathered during monitoring of the feature's current condition. As new information on feature condition becomes available, this will be added so that the advice remains up to date.

The targets given for each attribute do not represent thresholds to assess the significance of any given impact in Habitats Regulations Assessments. You will need to assess this on a case-by-case basis using the most current information available.

Some, but not all, of these attributes can also be used for regular monitoring of the actual condition of the designated features. The attributes selected for monitoring the features, and the standards used to assess their condition, are listed in separate monitoring documents, which will be available from Natural England.

These tables do not give advice about SSSI features or other legally protected species which may also be present within the European Site.

If you have any comments or queries about this Supplementary Advice document please contact your local Natural England adviser or email HDIRConservationObjectivesNE@naturalengland.org.uk

About this site

European Site information

Name of European Site	Durham Coast Special Area of Conservation (SAC)
Location	County Durham
Site Map	The designated boundary of this site can be viewed here on the MAGIC website
Designation Date	1 April 2005
Qualifying Features	See section below
Designation Area	393.63 ha
Designation Changes	N/A
Feature Condition Status	Details of the feature condition assessments made at this site can be found using Natural England's Designated Sites System
Names of component Sites of Special Scientific Interest (SSSIs)	Durham Coast SSSI (Wholly within the SSSI. The SSSI covers a wider area than the SAC)
Relationship with other European or International Site designations	Approximately 30% of the SAC overlaps with Northumbria Coast SPA and Ramsar (between Trow Point and Masden Bay, Salterfern Rocks and Pincushion Rocks and around Blackhall Rocks). At Castle Eden Dene the eastern boundary of Castle Eden Dene SAC is 250 m of Durham Coast SAC. The southern boundary abuts the northern boundary of Teesmouth and Cleveland Coast SPA and Ramsar.

Site background and geography

The Durham Coast is the only example of vegetated sea cliffs on 'Magnesian Limestone' exposures in the UK. These cliffs extend along the North Sea coast for over 20 km from South Shields southwards to Blackhall Rocks. There are extensive cliff and foreshore exposures of 'Magnesian Limestone' together with smaller scale exposures on steep and unstable slopes, but much of the area is covered with a mantle of glacial deposits.

The coastal vegetation is unique in the British Isles and consists of a complex mosaic of maritime-influenced, calcareous and neutral grasslands, tall-herb fen, seepage flushes and wind-pruned scrub, including virtually all of the unimproved paramaritime 'Magnesian Limestone' grassland in Britain. Within these habitats species with varied ecological requirements and from different phyto-geographic elements, including a number of rare and scarce species, often grow together, forming unusual and species-rich communities of high scientific interest. The communities present on the sea cliffs are largely maintained by natural processes including exposure to sea spray, erosion and slippage of the soft 'Magnesian Limestone' bedrock and overlying glacial drifts, as well as localised flushing by calcareous water.

The SAC encompasses nearly 400 ha of this complex mosaic of habitats, spread across three main stretches. It lies within the Durham Magnesian Limestone Plateau National Character Area. As well as

the outstanding vegetation communities, the SAC also supports significant populations of breeding seabirds, wintering waders, and a number of rare and scarce invertebrates, such as the Durham argus *Aricia artaxerxes salmacisi*, together with nationally important geological exposures, coastal geomorphology and Quaternary deposits.

The site is well used by the public with a number of footpaths including the England Coast Path.

For many years coal mining waste was dumped along the coast and this continued until late in the 20th century. Much of this waste has now been removed, capped, or dispersed by the sea, but there are still large volumes offshore and at the base of some cliffs. These deposits continue to affect coastal processes and the long term evolution of the coast.

About the qualifying features of the SAC

The following section gives you additional, site-specific information about this SAC's qualifying features. These are the natural habitats and/or species for which this SAC has been designated.

Qualifying habitats:

- **H1230 Vegetated sea cliffs of the Atlantic and Baltic coasts**

  Vegetated sea cliffs are steep slopes fringing hard or soft coasts, created by past or present marine erosion, and supporting a wide diversity of vegetation types with variable maritime influence. Exposure to the sea is a key determinant of the type of sea cliff vegetation.

  In the UK exposure is greatest on the south-west and northern coasts. The long fetch associated with these coasts generates high waves and swell, and the prevailing winds help deliver salt spray to the cliff face and cliff tops. However, the degree to which this affects the salinity of cliff-top vegetation also depends on the amount of rainfall, with high rainfall areas, such as north-west Scotland, being less saline or maritime than drier areas such as south-east England.

  Exposure is another important factor. The most exposed areas support maritime vegetation dominated by a range of salt-tolerant plants. More sheltered cliffs support communities closely related to those found on similar substrates inland, such as grassland and heath, with only a minor maritime element in the flora.

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

Qualifying Species:

Not Applicable

Table 1: Supplementary Advice for Qualifying Features: H1230. Vegetated sea cliffs of the Atlantic and Baltic coasts

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
Extent and distribution	**Extent of hard or soft cliff capable of supporting sea cliff vegetation**	Restore the total extent of the cliff system capable of supporting H1230 sea cliff vegetation.	There should be no measurable reduction (excluding any trivial loss) in the extent and area of this feature, and in some cases, the full extent of the feature may need to be restored. The baseline-value of extent given has been generated using data gathered from the listed site-based surveys. Area measurements given may be approximate depending on the methods, age and accuracy of data collection, and as a result this value may be updated in future to reflect more accurate information. The extent of an Annex I habitat feature covers the sum extent of all of the component vegetation communities present and may include transitions and mosaics with other closely-associated habitat features. Where a feature is susceptible to natural dynamic processes, there may be acceptable variations in its extent through natural fluctuations. Where a reduction in the extent of a feature is considered necessary to meet the Conservation Objective for another Annex I feature, Natural England will advise on this on a case-by-case basis. The whole system acts to provide the range and variation of vegetation types and mosaics with bare ground. Extent may be measured in different ways but there are issues with measuring area of vertical cliffs. Reduction in extent can include smothering cliff slope, cliff foot or cliff top surfaces by artificial or dumped materials. The total extent of the cliff system which is capable of supporting H1230 sea cliff vegetation is not known. The site is 393.63 ha, but this includes areas that are not part of cliff system, so the extent of the feature will be less than this. A detailed vegetation survey is required to be able to establish an accurate extent target. Restore target selected because some cliff bases are covered by coal mining waste.	This attribute will be periodically monitored as part of Natural England's site condition assessments. Mitchell, D.N., Davison, A.W. and Cooke, J.A. 1994 The flora and vegetation of Magnesian Limestone sea cliffs, County Durham. *Transactions of the Natural History Society of Northumberland* **57**, p153-175 Nature Conservancy Council 1984 *Phase 1 Survey of Durham Coast SSSI.* Unpublished Report. Available from Natural England on request.

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
Extent and distribution	**Spatial distribution of the feature within the site**	Restore the distribution and continuity of the H1230 habitat and any associated transitions which reflects the natural functioning of the cliff system.	A contraction in the range, or geographic spread, of the feature (and its component vegetation and typical species, plus transitional communities) across the site will reduce its overall area, the local diversity and variations in its structure and composition, and may undermine its resilience to adapt to future environmental changes. This may also reduce and break up the continuity of a habitat within a site and how well its typical species are able to move around the site to occupy and use habitat. Such fragmentation can impact on their viability and the wider ecological composition of the Annex I habitat. Smaller fragments of habitat can typically support smaller and more isolated populations which are more vulnerable to extinction. These fragments also have a greater amount of open edge habitat which will differ in the amount of light, temperature, wind, and even noise that it receives compared to its interior. These conditions may not be suitable for some of the typical and more specialist species associated with the Annex I habitat feature. Transitions include cliff top and cliff foot transitions to terrestrial or marine habitats. The distribution of vegetation communities is not well understood. There is a Phase 1 vegetation survey of the site but it is small scale and does not provide much detail. An up-to-date vegetation survey of the H1230 feature is required. Restore target selected because some cliff-top transitions have been truncated by intensive agriculture and/or eutrophication.	This attribute will be periodically monitored as part of Natural England's site condition assessments. Nature Conservancy Council 1984 *Phase 1 Survey of Durham Coast SSSI.* Unpublished Report. Available from Natural England on request
Extent and distribution	**Future extent of habitat within the site and ability to respond to seasonal changes**	Restore active processes such that the system can adjust to longer-term natural change, including landward recession, and those fluctuations in the extent of vegetated areas to bare rock occur over time and space within the site.	This recognises the need to allow for natural fluctuations in the extent and the distribution of this habitat feature, often during particular seasons and usually as a result of natural coastal processes. Restore target selected because coal mining waste offshore and along cliff bases is disrupting coastal processes. There is some removal of this waste by natural coastal processes. In addition, some landward transitions are truncated e.g. by intensive agriculture.	This attribute will be periodically monitored as part of Natural England's site condition assessments.
Structure and function (including its typical species)	**Geomorphological naturalness**	Restore the geomorphological naturalness of the sea cliff system (from cliff top to foreshore connection	The physical landforms associated with this habitat feature, and the processes that shape them, will be a primary influence on sea-cliff habitat. A key criteria for selecting SACs for this habitat feature was that they had no or minimal artificial modification and so demonstrates good geomorphological naturalness. Having a well-developed sea-cliff structure shaped by natural geomorphological processes, will	This attribute will be periodically monitored as part of Natural England's site

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
		with the intertidal zone	ensure the full range of natural variation can occur. Restore target selected because coal mining waste offshore and along cliff bases is disrupting coastal processes. There is some removal of this waste by natural coastal processes.	condition assessments.
Structure and function (including its typical species)	**Presence of mosaic of microhabitats**	Restore the diversity and range of microhabitats and bare areas resulting from active coastal processes/landslips	Each site will have a different configuration of geology and hydrology and maritime exposure, which will also change over time and space. The key aim is to maintain the full, naturally expected range of these in as natural a state as possible. Restore target selected by coal mining waste offshore and along cliff bases is reducing cliff erosion.	
Structure and function (including its typical species)	**Vegetation community composition**	Ensure the component vegetation communities of the H1230 feature are broadly referable to and characterised by the following National Vegetation Classification type (s): CG2 *Festuca ovina – Avenula pratensis* grassland CG6 *Avenula pubescens* grassland CG8 *Sesleria albicans – Scabiosa columbaria* grassland MG1 *Arrhenatherum elatius* grassland MG5 *Cynosurus cristatus – Centaurea nigra grassland*	This habitat feature will comprise a number of associated semi-natural vegetation types and their transitional zones, reflecting the geographical location of the site, altitude, aspect, soil conditions (especially base-status and drainage) and vegetation management. In the UK these have been categorised by the National Vegetation Classification (NVC). Maintaining these characteristic and distinctive vegetation types, and the range of types as appropriate, will be important to sustaining the overall habitat feature. This will also help to conserve their typical plant species (i.e. the constant and preferential species of a community), and therefore that of the SAC feature, at appropriate levels (recognising natural fluctuations). The presence, composition, location and extent of maritime scrub, heath and/or grassland plus mosaics of the three, on cliff slopes or cliff tops will be determined by the interaction of natural geomorphological processes with exposure and soil characteristics and management where relevant. The SAC encompasses all semi-natural NVC communities growing on the cliffs. The distribution of vegetation communities within the SAC is not fully understood so this list of NVC types is not exhaustive. Some communities, particularly those in wetlands/flushes, have suffered nutrient enrichment from fertiliser run-off from adjacent arable farmland. Some arable areas along the cliff-top have been reverted to low-input grassland, but some remain.	This attribute will be periodically monitored as part of Natural England's site condition assessments.

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
		MC8 *Festuca rubra – Armeria maritima* maritime grassland MC9 *Festuca rubra – Holcus lanatus* maritime grassland MC10 *Festuca rubra – Plantago* species maritime grassland MC11 *Festuca rubra – Daucus carota* maritime grassland M10 *Carex dioica – Pinguicula vulgaris mire* M22 *Juncus subnodulosus – Cirsium palustre* fen meadow M27 *Filipendula ulmaria – Angelica sylvestris* mire M37 *Cratoneuron commutatum – Festuca rubra* spring S25 *Phragmites australis – Eupatorium cannabinum* tall-herb fen W8 *Fraxinus excelsior – Acer campestre – Mercurialis perennis* woodlandW21 *Crataegus*		

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
		monogyna – Hedera helix scrub W22 *Prunus spinosa – Rubus fruticosus* scrub W23 *Ulex europaeus – Rubus fruticosus* scrub W24 *Rubus fruticosus – Holcus lanatus* underscrub W25 *Pteridium aquilinum – Rubus fruticosus* underscrub		
Structure and function (including its typical species)	**Vegetation: undesirable species**	Restore the frequency/cover of the following undesirable species to within acceptable levels and prevent changes in surface condition, soils, nutrient levels or hydrology which may encourage their spread; All Invasive Non-natives, including: Common wallflower *Erysimum cheiri* Japanese knotweed *Fallopia japonica* Himalayan balsam *Impatiens glandulifera* Cow parsley *Anthriscus sylvestris*	Undesirable non-woody and woody vascular plants species may require active management to avert an unwanted succession to a different and less desirable state. Often they may be indicative of a negative trend relating to another aspect of a site's structure and function. These species will vary depending on the nature of the particular feature, and in some cases these species may be natural/acceptable components or even dominants. There are a range of non-native plants affecting coastal cliffs, and due to difficulties of access, these often pose problems with management. The key objective is to prevent any introductions or planting. This includes the dumping of spoil or organic waste on cliff tops or slopes within or beyond the site boundary which may contain plant seeds or propagules or enrich the site. All of the species in the list, except the non-natives, form natural components of a range of vegetation types within the SAC. However, in certain circumstances (such as when they become abundant) they can be undesirable and indicate negative pressures on the site. The main issues that are likely to result in increases in these species are amelioration of coastal processes (coal mining waste reducing rates of cliff erosion and exposure to salt spray), eutrophication, changes to hydrology and disturbance (e.g. from fire). The list of non-natives is not exhaustive, but includes the most abundant species.	This attribute will be periodically monitored as part of Natural England's site condition assessments. JNCC 2004 *Common Standards Monitoring guidance for lowland grassland habitats*. Available from: http://jncc.defra.gov.uk/PDF/CSM_lowland_grassland.pdf JNCC 2004b *Common*

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
		False oat-grass *Arrhenatherum elatius* Soft brome *Bromus hordeaceus* Sedges Large *Carex* species Creeping thistle *Cirsium arvense* Spear thistle *Cirsium vulgare* Common hawthorn *Crataegus monogyna* Cock's foot *Dactylis glomerata* Tufted hair-grass *Deschampsia cespitosa* Hairy willowherb *Epilobium hirsutum* Field horsetail *Equisetum arvense* Great horsetail *Equisetum telmateia* Cleavers *Galium aparine* Great Manna Grass *Glyceria maxima* Yorkshire fog *Holcus lanatus* Rushes *Juncus* species Perennial ryegrass *Lolium perenne* Purple moor-grass *Molinia caerulea* Reed canary grass *Phalaris arundinacea* Common reed *Phragmites australis* Timothy grass *Phleum pratense* Broadleaf plantain	There are a number of garden escapes scattered along the coast. Restore target selected because a number of communities have suffered from nutrient enrichment and scrub and invasive non-native encroachment.	*Standards Monitoring guidance for lowland wetland habitats*. ISSN 1743-8160. Available from: http://jncc.defra.gov.uk/pdf/CSM_lowland_wetland.pdf

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
		Plantago major Blackthorn *Prunus spinosa* Bracken *Pteridium aquilinum* Blackberry *Rubus fruticosus* Curley dock *Rumex crispus* Broad leaved-dock *Rumex obtusifolius* Ragwort *Senecio jacobaea* White clover *Trifolium repens* Gorse *Ulex europaea* Common nettle *Urtica dioica* Brachythecium moss *Brachythecium rutabulum* Common feather moss *Kindbergia praelogum*		
Structure and function (including its typical species)	**Key structural, influential and distinctive species**	Restore the abundance of the species listed to enable each of them to be a viable component of the Annex I habitat feature: Narrow-leaved marsh-orchid *Dactylorhiza traunsteinerioides;* Rush-leaved Fescue *Festuca arenaria;* Bird's-eye primrose	Some plant or animal species (or related groups of such species) make a particularly important contribution to the necessary structure, function and/or quality of an Annex I habitat feature at a particular site. These species will include; • **Structural species** which form a key part of the Annex I habitat's structure or help to define that habitat on a particular SAC (see also the attribute for 'vegetation community composition'). • **Influential species** which are likely to have a key role affecting the structure and function of the habitat (such as bioturbators (mixers of soil/sediment), grazers, surface borers, predators or other species with a significant functional role linked to the habitat)	Durkin, J. L. 2016 *County Durham Rare Plant Register 2016*. Available from: http://bsbi.org/wp-content/uploads/dlm_uploads/County-Durham-Rare-Plants-Register-2016-1.pdf Nature

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
		Primula farinose; Round-leaved wintergreen *Pyrola rotundifolia*	• **Site-distinctive species** which are considered to be a particularly special and distinguishing component of an Annex I habitat on a particular SAC. There may be natural fluctuations in the frequency and cover of each of these species. The relative contribution made by them to the overall ecological integrity of a site may vary, and Natural England will provide bespoke advice on this as necessary. The list of species given here for this Annex I habitat feature at this SAC is not necessarily exhaustive. The list may evolve, and species may be added or deleted, as new information about this site becomes available. For this feature, typical species may be associated with a variety of different sub-habitats such as rock crevice, splash zone and ledge vegetation; maritime therophyte (annual) vegetation; soft cliff pioneer vegetation; soft cliff flush or wetland vegetation and soft cliff grassland or heath communities on slopes and/or adjacent cliff tops. Species in the Vascular Plant Assemblage of Durham Coast SSSI that have occurred in the SAC have been selected. Restore target selected because some of the populations appear to have been lost or reduced. However, little survey work has been conducted on rare plants recently and specific searches are required.	Conservancy Council 1984 *Phase 1 Survey of Durham Coast SSSI.* Unpublished Report. Available from Natural England on request
Structure and function (including its typical species)	**Regeneration potential**	Restore semi-natural vegetation on the cliff-top (either within or beyond the site boundary as appropriate), and its connectivity with the lower cliff slopes.	This is important to ensure that there is a continuous supply of seed-rich semi-natural vegetation material from the clifftops to feed the sea-cliff system below. As the top of the cliff slumps and recedes as a result of natural processes, the vegetation dropping onto the lower slopes should provide suitable material for their re-colonisation with native plant species from adjacent semi-natural habitats above. Restore target selected because much of the cliff-top vegetation is arable or recently reverted to low-input grassland (and has not fully developed a semi-natural vegetation community).	
Supporting processes (on which the	**Physical features supporting**	Restore the associated physical components of the vegetated cliff feature	Cliff structure and geomorphological processes are major influences on sea-cliff vegetation. 'Hard' cliffs with vertical or very steep faces are characteristic of hard igneous, metamorphic and sedimentary rocks and also of chalk, which, although a	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
feature relies)	**vegetation: crevices, ledges, isolated stacks etc.**	(crevices, ledges, isolated stacks) with changes to them determined by natural processes only	soft rock, nevertheless forms vertical cliffs. More mobile 'Soft' cliffs have a sloping or slumped profile, often with a distinct 'undercliff'; these occur on a range of soft rocks, or on hard rocks interspersed with softer deposits and may be subject to mudslides or landslips. These processes all create smaller structural elements such as ledges, crevices and stacks which create complexes of pioneer and more mature vegetation which are typical of this habitat feature. Restore target selected because coal mining waste offshore and along cliff bases is disrupting coastal processes.	
Supporting processes (on which the feature relies)	**Hydrology/ drainage**	At a site, unit and/or catchment level, restore natural hydrological processes to provide the conditions necessary to sustain the H1230 feature within the site	Defining and maintaining the appropriate hydrological regime is a key step in moving towards achieving the conservation objectives for this site and sustaining this feature. Changes in source, depth, duration, frequency, magnitude and timing of water supply can have significant implications for the assemblage of characteristic plants and animals present. This target is generic and further site-specific investigations may be required to fully inform conservation measures and/or the likelihood of impacts. There are a number of small wetlands within the SAC, but no detailed work has been done on their hydrology and so the water supply mechanisms are not known. Given this uncertainty the restore target has been selected because it is likely that some wetlands have been affected by local agricultural drainage.	
Supporting processes (on which the feature relies)	**Maritime exposure including salt spray effects**	Maintain an appropriate degree of exposure to maritime effects, such as salt spray, both from regular inputs and storm events.	Excessive exposure to salt spray can cause episodic die-back of sea cliff vegetation in some circumstances, although this may not be applicable to all sites. Coal mining waste offshore and along cliff bases is preventing waves from reaching the cliff foot in some places. This is likely to reduce the amount of salt spray reaching the cliffs.	
Supporting processes (on which the feature relies)	**Water quality**	Where the feature is dependent on surface water and/or groundwater, restore water quality and quantity to a standard which provides the necessary conditions to support the H1230 feature.	For many SAC features which are dependent on wetland habitats supported by surface and/or ground water, maintaining the quality and quantity of water supply will be critical, especially at certain times of year. Poor water quality and inadequate quantities of water can adversely affect the structure and function of this habitat type. Typically, meeting the surface water and groundwater environmental standards set out by the Water Framework Directive (WFD 2000/60/EC) will also be sufficient to support the achievement of SAC Conservation Objectives but in some cases more stringent standards may be needed. Further site-specific investigations may be required to establish appropriate water quality standards for the SAC.	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			There are a number of small wetlands within the SAC, but there is currently no detailed water quality data for any of them so it is not possible to set specific targets. Restore target selected because vegetation change in some wetlands suggest that they are suffering from nutrient enrichment and run-off is likely to be a cause.	
Supporting processes (on which the feature relies)	**Air quality**	Restore as necessary the concentrations and deposition of air pollutants to or below the site-relevant Critical Load or Level values given for the H1230 feature of the site on the Air Pollution Information System (APIS).	This habitat type is considered sensitive to changes in air quality. Exceedance of these critical values for air pollutants may modify the chemical status of its substrate, accelerating or damaging plant growth, altering its vegetation structure and composition and causing the loss of sensitive typical species associated with it. Critical Loads and Levels are recognised thresholds below which such harmful effects on sensitive UK habitats will not occur to a significant level, according to current levels of scientific understanding. There are critical levels for ammonia (NH3), oxides of nitrogen (NOx) and sulphur dioxide (SO2), and critical loads for nutrient nitrogen deposition and acid deposition. There are currently no critical loads or levels for other pollutants such as Halogens, Heavy Metals, POPs, VOCs or Dusts. These should be considered as appropriate on a case-by-case basis. Ground level ozone is regionally important as a toxic air pollutant but flux-based critical levels for the protection of semi-natural habitats are still under development. It is recognised that achieving this target may be subject to the development, availability and effectiveness of abatement technology and measures to tackle diffuse air pollution, within realistic timescales. Critical loads/levels are not defined on APIS for the SAC. Critical loads/levels for relevant features of Durham Coast SSSI was used instead (neutral grassland; calcareous grassland; fen, marsh and swamp). Restore target selected because critical loads for nitrogen and acid deposition for some features are currently being exceeded.	More information about site-relevant Critical Loads and Levels for this SAC is available by using the 'search by site' tool on the Air Pollution Information System (APIS).
Supporting processes (on which the feature relies)	**Cliff morphology, slope and elevation**	Restore the natural processes that determine cliff morphology, slope and elevation	These physical components greatly influence the structure of this habitat type. Allowing natural dynamic processes to operate is important to providing optimal conditions which will allow the long-term conservation of this habitat feature. Interruption of these processes, through partial stabilisation or slowing of cliff erosion and recession rates, with artificial management of cliff slope vegetation, does not produce naturally-occurring conditions which could lead to undesirables changes in characteristic sea cliff vegetation.	

Attributes		Targets	Supporting and Explanatory Notes	Sources of site-based evidence (where available)
			Restore target selected because coal mining waste offshore and along cliff bases is disrupting coastal processes and slowing erosion.	
Version Control: n/a				
Variations from national feature-framework of integrity-guidance: n/a				