European Community Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC)

Fourth Report by the United Kingdom under Article 17

on the implementation of the Directive
from January 2013 to December 2018

Supporting documentation for the
conservation status assessment for the habitat:

H1230 - Vegetated sea cliffs of the Atlantic and Baltic coasts

WALES

IMPORTANT NOTE - PLEASE READ

- The information in this document is a country-level contribution to the UK Report on the conservation status of this habitat, submitted to the European Commission as part of the 2019 UK Reporting under Article 17 of the EU Habitats Directive.
- The 2019 Article 17 UK Approach document provides details on how this supporting information was used to produce the UK Report.
- The UK Report on the conservation status of this habitat is provided in a separate document.
- The reporting fields and options used are aligned to those set out in the European Commission guidance.
- Explanatory notes (where provided) by the country are included at the end. These provide an audit trail of relevant supporting information.
- Some of the reporting fields have been left blank because either: (i) there was insufficient information to complete the field; (ii) completion of the field was not obligatory; and/or (iii) the field was only relevant at UK-level (sections 10 Future prospects and 11 Conclusions).
- For technical reasons, the country-level future trends for Range, Area covered by habitat and Structure and functions are only available in a separate spreadsheet that contains all the country-level supporting information.
- The country-level reporting information for all habitats and species is also available in spreadsheet format.

Visit the JNCC website, https://jncc.gov.uk/article17, for further information on UK Article 17 reporting.

Report on the main results of the surveillance under Article 17 for Annex I habitat types (Annex D)

NATIONAL LEVEL

1. General information

1.1 Member State	**UK (Wales information only)**
1.2 Habitat code	**1230 - Vegetated sea cliffs of the Atlantic and Baltic Coasts**

2. Maps

2.1 Year or period	1987-2017
2.3 Distribution map	Yes
2.3 Distribution map Method used	Complete survey or a statistically robust estimate
2.4 Additional maps	No

BIOGEOGRAPHICAL LEVEL

3. Biogeographical and marine regions

3.1 Biogeographical or marine region where the habitat occurs	**Atlantic (ATL)**
3.2 Sources of information	Blackstock, T. H., Howe, E. A., Stevens, J. P., Burrows, C. R. & Jones P. S. (2010). Habitats of Wales. A comprehensive field survey 1979-1997. University of Wales Press, Cardiff. British Geological Survey(2003). Digital geology data layer DiGMapGB250. BGS dataset. Creer, J., (2006) Great Orme's Head / Pen y Gogarth SAC, 1230: Vegetated sea cliffs of the Atlantic and Baltic coasts. SAC Monitoring report 2006. CCW Internal report Creer, J. (2009) Pen y Gogarth / Great Orme's Head SAC, 1230: Vegetated sea cliffs of the Atlantic and Baltic coasts. SAC Monitoring Report 2009. CCW Internal Report. Green, H. (2014) Glannau Ynys Gybi Special Area of Conservation UK0013046, European Dry Heaths H4030, Vegetated Sea Cliffs of The Atlantic and Baltic Coasts H1230, Northern Atlantic Wet Heaths with Erica tetralix H4010. CCW Dataset. Green, H. (2013) Great Orme's head/Pen Y Gogarth SAC H1230 Vegetated Sea cliffs of the Atlantic and Baltic coasts. Monitoring Report 2013. CCW Internal Report. Harrison, T. (2017) Clogwyni Pen Llyn SAC Monitoring Report. Vegetated sea cliffs of the Atlantic and Baltic coasts. Monitoring Round 2013 to 2018 NRW Evidence Report Draft Haycock, G. (In prep) Clogwyni Pen Llyn NVC Survey Report. NRW Environmental Evidence Report. Hill, C., Ball, J.H., Dargie, T., Tantram, D. & Boobyer, G. (2001). Maritime cliffs and slope inventory. A report to English Nature by the GeoData Institute, University of Southampton. EN Contract No. MAR 02-03-02. English Nature Research Reports No. 426. Peterborough, English Nature. Howe, M. A. (2002) A review of the coastal soft cliff resource in Wales with particular reference to its importance for invertebrates. Bangor: Countryside Council for Wales. CCW Natural Science Report; 02/5/1 JNCC (2004) Common standards monitoring guidance for maritime cliff and slope. JNCC. Jones, M.L.M., Angus S., Cooper A., Doody P., Everard M., Garbutt A., Gilchrist P., Hansom G., Nicholls R., Pye K., Ravenscroft N., Rees S., Rhind P. & Whitehouse

A.. (2011) Coastal margins [chapter 11]. In: UK National Ecosystem Assessment. Understanding nature's value to society. Technical Report. Cambridge, UNEP-WCMC, 411-457.
Natural resources Wales (2013) Supporting documentation for the Third Report by the United Kingdom under Article 17 on the implementation of the Directive from January 2007 to December 2012 Conservation status assessment for Habitat: H1230 - Vegetated sea cliffs of the Atlantic and Baltic coasts (Wales). http://jncc.defra.gov.uk/pdf/CSM_coastal_cliff_slope.pdf
Lewis, H. (2004a) Clogwyni Pen Llyn cSAC H1230: Vegetated Sea Cliffs of The Atlantic and Baltic Coasts SAC Monitoring Report. CCW Internal Report.
Lewis, H. (2004b) Glannau Ynys Gybi cSAC UK0013046, H1230: Vegetated Sea Cliffs of The Atlantic and Baltic Coasts, H4030 European Dry Heaths, H4010: Northern Atlantic Wet Heaths with Erica tetralix, SAC Monitoring report (draft) 16/06/04. CCW Internal Report.
Lewis, H., Harrison, T. (2009). Clogwyni Pen Llyn SAC, H1230: Vegetated Sea Cliffs of the Atlantic and Baltic Coasts, Maritime and coastal heath & Maritime grassland. SAC Monitoring report 09/09/09CCW Internal Report.
Lewis, H., Wilkinson, K., Anstice, Kay, L. (2018). Article 17 2018 GIS Layer Processing Notes:H1230 Vegetated Sea Cliffs of the Atlantic and Baltic Coasts. Internal NRW Document.
Little, D. I., Rhind, P. M., Jones, R., Bennett, I. & Moore, J. (1997). CCW's shoreline oil distribution surveys following the Sea Empress spill. International Oil Spill Conference, 1997.
Lough, N. 2009. Clogwyni Pen Llyn SAC, H1230: Vegetated Sea Cliffs of The Atlantic and Baltic Coasts, Soft cliffs. SAC Monitoring Report. CCW Internal Report.
Mellor, S., 2011 St David's Peninsula SAC Baseline Heath Monitoring 2011. National Trust Report
Motyka, J.M. & Brampton, A.H. 1993. Coastal management: mapping of littoral cells. Unpublished report (Report SR 328) to Ministry of Agriculture, Fisheries and Food. MAFF Contract CSA 2167. HR Wallingford, Wallingford. http://eprints.hrwallingford.co.uk/748/1/SR328.pdf
NRW 2018. Actions Database. NRW internal database.
Porter, J.; 2017. Bardsey Island (Ynys Enlli) NVC Survey Report 1. Maritime Communities and Mynydd Enlli. RSPB Cymru.
Prosser, M.V.; Wallace, H.L., 1995a. Ecological Surveys (Bangor) Gwynedd lowland heathland survey 1994: part 1 introduction and overview. CCW Science Report 113.
Prosser, M.V.; Wallace, H.L., 1995b. Gwynedd lowland heathland survey supplement: introduction and individual site descriptions. CCW Science Report 143.
Prosser, M.V.; Wallace, H.L., 1996. Pembrokeshire lowland heathland survey 1995: part 1 introduction and overview CCW Science Report 169.
Prosser, M.V.; Wallace, H.L. 1997. Pembrokeshire lowland heathland survey 1996. CCW Science Report 205.
Prosser, M.V.; Wallace, H.L. 1999. Lowland heathlands of Wales additional sites surveyed in 1998. CCW Report 218.
Prosser, M.V., Wallace, H.L. 2000. Vegetation survey of maritime cliff and slopes of the Llyn Peninsula 2000. Bangor: Countryside Council for Wales. CCW Science Report; 425.
Rhind, P. M. 1995. Invasion of the Purple Dew Plant. Natur North Wales Wildlife Trust Newsletter, 95: 10.
Rhind, P. M. 1995. Phytogeography of the Welsh Islands. Coastline (special) by

the European Union for Coastal Conservation.
Rhind, P. M., Blackstock, T. H., & Parr, S. J. (1997). Welsh islands: ecology, conservation and land use. Countryside Council for Wales, Bangor.
Rhind, P. M. & Blackstock, T. H. (1997). Vegetation of Welsh islands: an overview of habitat, floristic and management relationships. In: P. M. Rhind, T. H. Blackstock & S. J. Parr eds. 1997. Welsh islands: ecology, conservation and land use. Countryside Council for Wales, Bangor 31-37.
Rhind, P. M. (1998). The Welsh islands past and present management. Islander, 5: 41-44.
Rhind, P.M. (2013) European Community Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC). Supporting documentation for the Third Report by the United Kingdom under Article 17 on the implementation of the Directive from January 2007 to December 2012 Conservation status assessment for H1230 - Vegetated sea cliffs of the Atlantic and Baltic coasts: Wales. JNCC. http://jncc.defra.gov.uk/pdf/Article17Consult_20131010/H1230_WALES.pdf
Rodwell, J.S. (ed.). 1991. British plant communities. Volume 2. Mires and heaths. Cambridge University Press, Cambridge.
Rodwell, J.S. (ed.). 1992. British plant communities. Volume 3. Grasslands and montane communities. Cambridge University Press, Cambridge.
Rodwell, J.S. (ed.). 2000. British plant communities. Volume 6. Maritime communities and vegetation of open habitats. Cambridge University Press, Cambridge.
Shepherd, S. (2016) Ty Ddewi / St David's Coast NVC Survey Report. NRW Environmental Evidence Report 143. Natural Resources Wales, Bangor.
Stevens D. P., Smith S. L. N., Blackstock T. H., Bosanquet S. D. S. & Stevens J. P. 2010. Grasslands of Wales. A survey of lowland species-rich grasslands, 1987-2004. University of Wales Press, Cardiff.
Stewart, B. et al. (2013) South Gower Coast Invasive 2012 Alien Plant Survey. Plant Life & National Trust.
Tantram, D & Dargie, T. 2005. Maritime Cliff & Slope Inventory for Wales. Terra Consult for the Countryside Council for Wales.
Wilkinson, K., (2009) St David's SAC Vegetated sea cliffs of the Atlantic and Baltic Coasts (1230) European dry heaths (4030) SAC Monitoring Report. CCW Internal Report.
Wilkinson, K. 2009. St David's SAC Monitoring Report. Vegetated Sea Cliffs (H1230) SAC Monitoring Report. CCW Internal Report.
Wilkinson, K. 2011. Limestone Coast of South West Wales SAC. SAC Monitoring Report. Vegetated Sea Cliffs of the Atlantic & Baltic Coasts 1-5. CCW Internal Report.

4. Range

4.1 Surface area (in km²)		
4.2 Short-term trend Period		
4.3 Short-term trend Direction	Stable (0)	
4.4 Short-term trend Magnitude	a) Minimum	b) Maximum
4.5 Short-term trend Method used		
4.6 Long-term trend Period		
4.7 Long-term trend Direction		
4.8 Long-term trend Magnitude	a) Minimum	b) Maximum
4.9 Long-term trend Method used		

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4.10 Favourable reference range	a) Area (km²)	
	b) Operator	
	c) Unknown	No
	d) Method	
4.11 Change and reason for change in surface area of range	Improved knowledge/more accurate data	
	The change is mainly due to:	Improved knowledge/more accurate data
4.12 Additional information		

5. Area covered by habitat

5.1 Year or period	1987-2017		
5.2 Surface area (in km²)	a) Minimum	b) Maximum	c) Best single value 31.61
5.3 Type of estimate	Best estimate		
5.4 Surface area Method used	Complete survey or a statistically robust estimate		
5.5 Short-term trend Period	2007-2018		
5.6 Short-term trend Direction	Decreasing (-)		
5.7 Short-term trend Magnitude	a) Minimum	b) Maximum	c) Confidence interval
5.8 Short-term trend Method used	Based mainly on expert opinion with very limited data		
5.9 Long-term trend Period	1994-2018		
5.10 Long-term trend Direction	Decreasing (-)		
5.11 Long-term trend Magnitude	a) Minimum	b) Maximum	c) Confidence interval
5.12 Long-term trend Method used	Based mainly on expert opinion with very limited data		
5.13 Favourable reference area	a) Area (km²)		
	b) Operator		
	c) Unknown	No	
	d) Method		
5.14 Change and reason for change in surface area of range	Improved knowledge/more accurate data		
	The change is mainly due to:	Improved knowledge/more accurate data	
5.15 Additional information			

6. Structure and functions

6.1 Condition of habitat	a) Area in good condition (km²)	Minimum 0.05	Maximum 0.05
	b) Area in not-good condition (km²)	Minimum 18.55	Maximum 18.55
	c) Area where condition is not known (km²)	Minimum 13.06	Maximum 13.06
6.2 Condition of habitat Method used	Based mainly on extrapolation from a limited amount of data		
6.3 Short-term trend of habitat area in good condition Period	2007-2018		
6.4 Short-term trend of habitat area in good condition Direction	Uncertain (u)		

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6.5 Short-term trend of habitat area in good condition Method used	Insufficient or no data available
6.6 Typical species	Has the list of typical species changed in comparison to the previous reporting period? No
6.7 Typical species Method used	
6.8 Additional information	

7. Main pressures and threats

7.1 Characterisation of pressures/threats

Pressure	Ranking
Abandonment of grassland management (e.g. cessation of grazing or mowing) (A06)	H
Extensive grazing or undergrazing by livestock (A10)	H
Conversion from one type of agricultural land use to another (excluding drainage and burning) (A02)	H
Problematic native species (I04)	H
Mixed source air pollution, air-borne pollutants (J03)	M
Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defences or coastal protection works and infrastructures) (F08)	M
Other invasive alien species (other then species of Union concern) (I02)	M
Intensive grazing or overgrazing by livestock (A09)	M
Burning for agriculture (A11)	M
Agricultural activities generating diffuse pollution to surface or ground waters (A26)	M

Threat	Ranking
Abandonment of grassland management (e.g. cessation of grazing or mowing) (A06)	H
Extensive grazing or undergrazing by livestock (A10)	H
Conversion from one type of agricultural land use to another (excluding drainage and burning) (A02)	H
Problematic native species (I04)	H
Mixed source air pollution, air-borne pollutants (J03)	M
Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas (including sea defences or coastal protection works and infrastructures) (F08)	M
Other invasive alien species (other then species of Union concern) (I02)	M
Intensive grazing or overgrazing by livestock (A09)	M
Sea-level and wave exposure changes due to climate change (N04)	H

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Change of habitat location, size, and / or quality due to climate change (N05)	M

7.2 Sources of information

7.3 Additional information

8. Conservation measures

8.1 Status of measures	a) Are measures needed?	Yes
	b) Indicate the status of measures	Measures identified and taken
8.2 Main purpose of the measures taken		Maintain the current range, population and/or habitat for the species
8.3 Location of the measures taken		Both inside and outside Natura 2000
8.4 Response to the measures		Short-term results (within the current reporting period, 2013-2018)

8.5 List of main conservation measures

Prevent conversion of natural and semi-natural habitats, and habitats of species into agricultural land (CA01)

Maintain existing extensive agricultural practices and agricultural landscape features (CA03)

Reinstate appropriate agricultural practices to address abandonment, including mowing, grazing, burning or equivalent measures (CA04)

Manage the use of natural fertilisers and chemicals in agricultural (plant and animal) production (CA09)

Management of problematic native species (CI05)

Implement climate change adaptation measures (CN02)

Adapt mowing, grazing and other equivalent agricultural activities (CA05)

Reduce diffuse pollution to surface or ground waters from agricultural activities (CA11)

Management, control or eradication of other invasive alien species (CI03)

Manage changes in hydrological and coastal systems and regimes for construction and development (CF10)

8.6 Additional information

9. Future prospects

9.1 Future prospects of parameters	a) Range
	b) Area
	c) Structure and functions
9.2 Additional information	

10. Conclusions

10.1. Range

10.2. Area

10.3. Specific structure and functions (incl. typical species)

10.4. Future prospects

10.5 Overall assessment of Conservation Status

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10.6 Overall trend in Conservation Status	
10.7 Change and reasons for change in conservation status and conservation status trend	a) Overall assessment of conservation status No change The change is mainly due to: b) Overall trend in conservation status No change The change is mainly due to:
10.8 Additional information	

11. Natura 2000 (pSCIs, SCIs, SACs) coverage for Annex I habitat types

11.1 Surface area of the habitat type inside the pSCIs, SCIs and SACs network (in km² in biogeographical/ marine region)	a) Minimum b) Maximum c) Best single value 31.61
11.2 Type of estimate	Best estimate
11.3 Surface area of the habitat type inside the network Method used	Complete survey or a statistically robust estimate
11.4 Short-term trend of habitat area in good condition within the network Direction	Uncertain (u)
11.5 Short-term trend of habitat area in good condition within network Method used	Based mainly on expert opinion with very limited data
11.6 Additional information	

12. Complementary information

12.1 Justification of % thresholds for trends	
12.2 Other relevant information	

Distribution Map

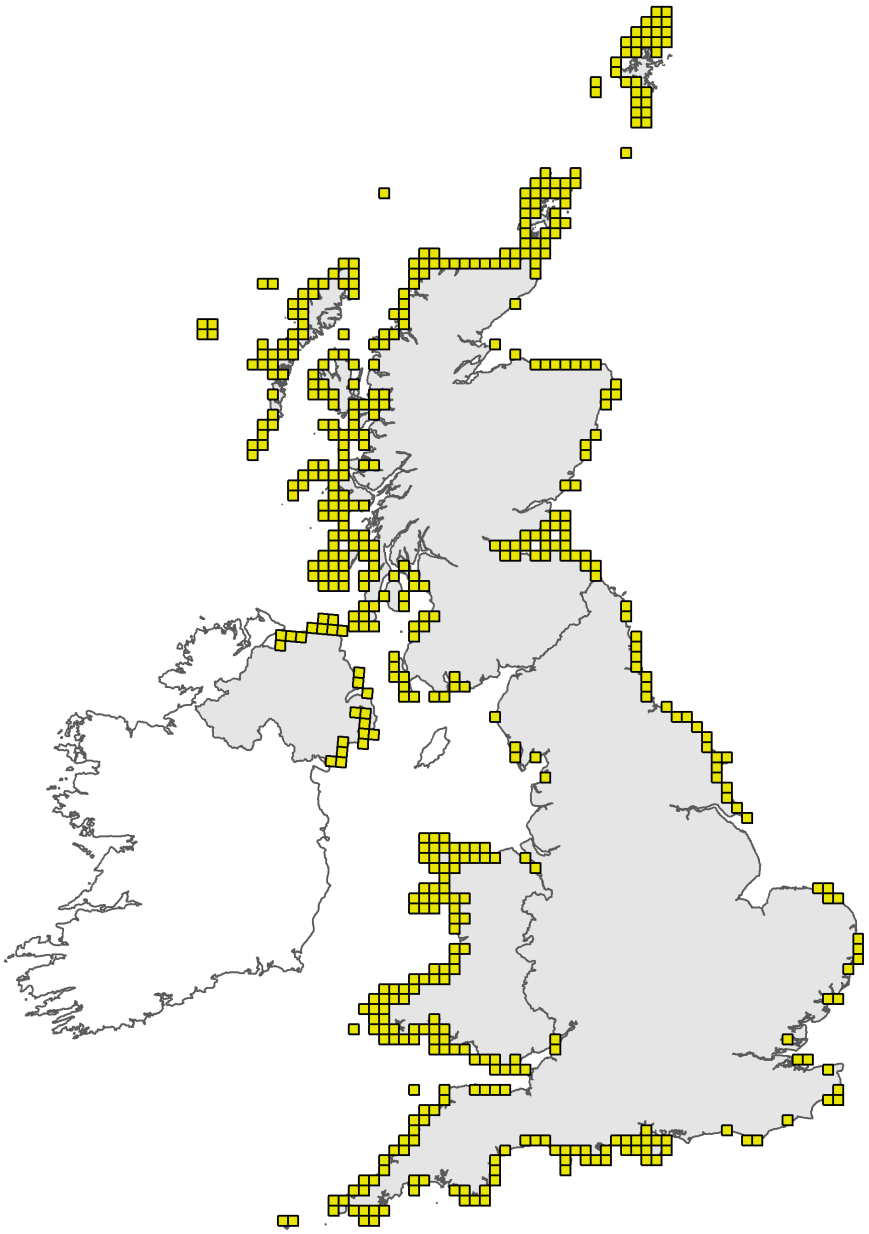

Figure 1: UK distribution map for H1230 - Vegetated sea cliffs of the Atlantic and Baltic coasts. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

The 10km grid square distribution map is based on available habitat records which are considered to be representative of the distribution within the current reporting period. For further details see the 2019 Article17 UK Approach document.

Range Map

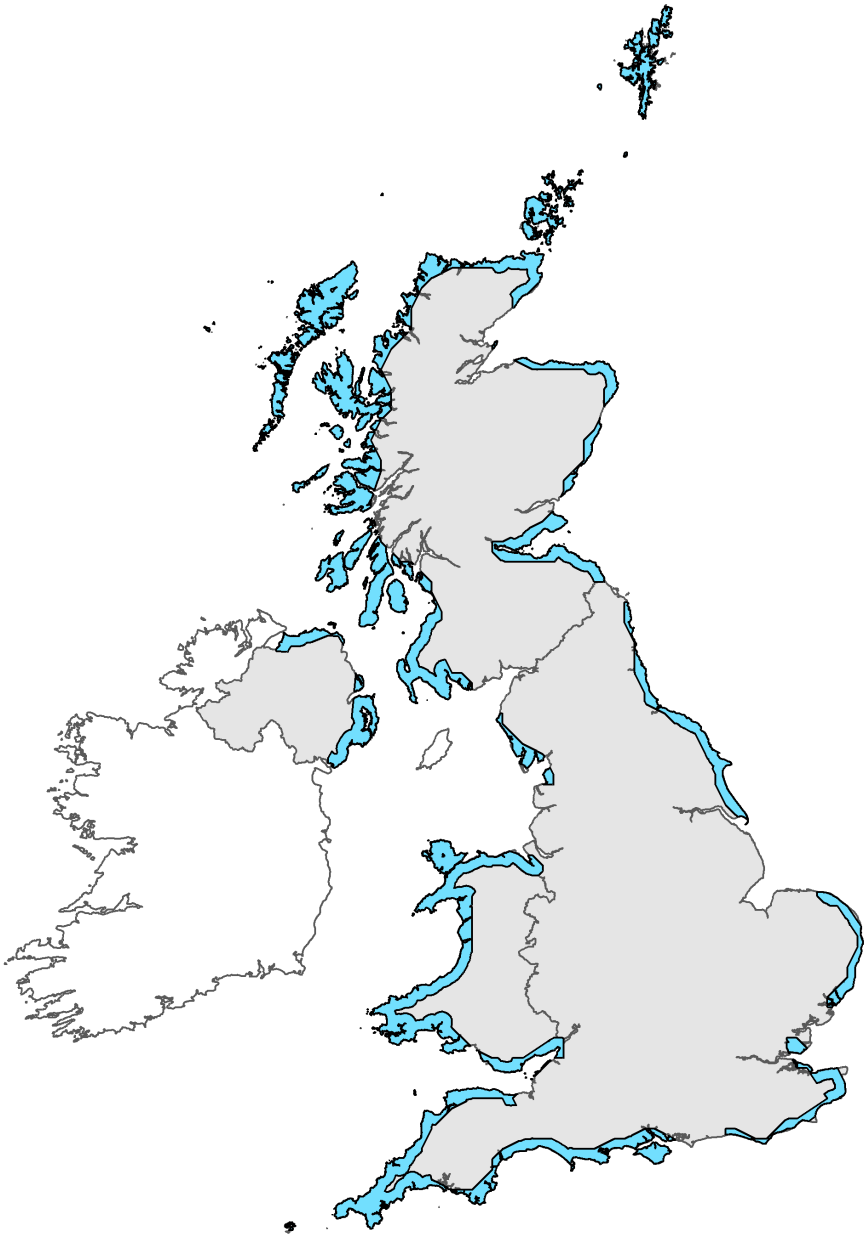

Figure 2: UK range map for H1230 - Vegetated sea cliffs of the Atlantic and Baltic coasts. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

The range map has been produced by applying a bespoke range mapping tool for Article 17 reporting (produced by JNCC) to the 10km grid square distribution map presented in Figure 1. The alpha value for this habitat was 25km. For further details see the 2019 Article 17 UK Approach document.

Explanatory Notes

Habitat code: 1230

Field label	Note

2.3 Distribution map; Method used	The 10km square distribution and habitat area estimates are derived from a combination of different original sources, summarised below. A single aggregated GIS layer has been created for this habitat across wales (data source 1 below) pulling together the maps and records from the other listed sources. Detailed processing notes for the 2018 Article 17 extent layer have been produced (Lewis et al. 2018). Data Source (No.1) Digital Layer: Article 17 H1230 Vegetated Sea Cliff Extent Layer 2018. (Lewis, et al 2018). Data Source (No.2) Digital Layer: Article 17 H1230 Vegetated Sea Cliff Layer 2013. (Rhind 2012). Data Source (No.3) Sea Cliff Inventory developed by Tantrum (Dargie 2005). Data Source (No.4) Phase I Habitat Survey of Wales (Blackstock et al., 2010). This is a comprehensive survey of broad habitat types across Wales. The majority of the Phase I survey information used relates to cliff habitat outside of SACs. Data source No. 5 Review of the Coastal Soft Cliff Resource with particular reference to its Importance for Invertebrates, (Howe 2012). The spatial data reflects the extent of soft cliffs as a geological feature and do not relate to specific vegetation communities. Data Source No.6 Lowland heathland Survey of Wales (Prosser and Wallace 1995a, 1995b, 1996, 1997, 1999). This survey targeted heathlands of high conservation interest which included many coastal heaths. The survey also captured data relating to the Maritime Cliff NVC communities. Data Source No. 7 Ty Ddewi / St David's Coast NVC Survey 2015 (Shepherd 2016). Individual site survey primarily targeting the maritime grassland and maritime heathland vegetation. Data Source No. 8 Clogwyni Pen Llyn NVC Survey 2016 (Haycock in prep.) Individual site survey primarily targeting the maritime grassland and maritime heathland vegetation. Data Source No. 9 A vegetation survey and conservation assessment of the Gower Limestone Coast (Smith et al. In prep.) Individual site survey carried out in 2014 targeting the calcareous grassland, maritime grassland, maritime heath and dry heath vegetation. Maps used for this are to be incorporated into the NRW Lowland Grassland corporate dataset. Data Source No. 10 Vegetation survey of maritime cliff and slopes of the Llyn Peninsula. (Prosser & Wallace 2000). A survey targeting cliff vegetation focusing on sections of soft cliff. Data Source No. 11 Lowland Grassland Survey of Wales (Stevens et al., 2010). This survey targeted grassland communities on conservation interest. A number of coastal sites were mapped including the Great Orme. Data Source No.12 Digital Layer: NRW 2013/2014 aerial photograph layer. Some additions to the 2018 extent layer were made based on the NRW 2013/2014 aerial photograph layerwhere there were a few obvious omissions. Some deletions were carried out where there have been minor losses in the habitat. Phase I Survey Information The following mapping categories were included for the Vegetated Sea Cliff layer: H8.1 Maritime hard cliff H8.2 Maritime soft cliff H8.4 Coastal grassland H8.5 Coastal heathland H8.6 Coastal grassland/heathland mosaic Coastal grassland polygons not located on cliffs were excluded from the selection in 2018 for example, occurances where coastal grassland occurrs on sea walls/flood banks and or has been mapped on the upper edges of saltmarsh. NVC Survey Information Detailed National Vegetation Survey (Rodwell (ed.) 2000 1991a, 1991b, 1992, 1995) infomation exists for the majority of the coastal slope element of the vegetated sea cliff feature within SACs in Wales. These data come from numerous different surveys from 1995 through to 2016 (listed above). Mapping categories selected from these surveys to produce the vegetated sea cliffs extent map were: MC1, MC4-12, H7, H8d and CG1f and maritime vartients of some scrub communities. A small number of additional non-standard mapped categories relevant to sea cliffs we included. Bare rock polygons were included up to 500m inland where in mosaic with maritime grassland and heathland. Some of the datasets used are reletively old and changes may have occured since their production. Crevice and ledge communities are under-recorded primarily due to physical constraints. However, No H8.3 Crevice and ledge vegetation polygons were recorded in the Phase I survey of Wales; and the NVC surveys have coverage of the crevice and ledge vegetation only where the terrain allowed access or where the vegetation could be assessed sufficiently from a distance to apply a community type. Similarly the sea bird communities are also

	under-represented due to access issues. Often the verticlal or near vertical cliff faces have not been included in surveys as a mapped polygon which has led to breaks in the coverage of this element of the sea cliff feature along significant stretches of coast.

Habitat code: 1230 Region code: ATL

Field label	Note
4.3 Short term trend; Direction	See 4.11
4.11 Change and reason for change in surface area of range	There is no evidence to indicate a genuine change in range of H1230 in Wales since 2013, nor is one considered likely to have occurred. Re-examination of the underpinning survey data has led to the exclusion of some areas of habitat from the map. Notably areas mapped as coastal grassland (H8.4) during Phase I survey where they were not associated with sea cliffs. A small number of records were added where omissions were noted in the 2013 feature extent layer. These corrections have resulted in minor changes to the 10km square distribution, with consequent changes to the mapped range.
5.7 Short term trend; Magnitude	The overall extent of vegetated sea cliff habitat in Wales is considered to have declined both in the long and short term. This judgement is based largely on expert opinion; there is limited quantitative data on which to base an assessment of the scale and rate of decline. The decline is driven primarily by the encroachment of agricultural land and abandonment or decline in grazing. Losses relate to the cliff top heath and grassland vegetation rather than the ledge and crevice vegetation of the vertical or near vertical cliff faces. Over the longer term much of the habitat has become truncated and squeezed into a narrow strip due to agricultural encroachment, with the loss of landward transition zones and fragmentation of the cliff top vegetation. Cliffs naturally erode and as they retreat losses are incurred where the cliff top vegetation is squeezed against more intensively manged agricultural land. This is a particular issue for soft cliffs where the rate of erosion is often relatively rapid. In some areas scrub has spread into areas of former coastal heathland and maritime grassland due to the abandonment of cliff top grazing management. Excluding livestock from the cliff tops in more difficult to manage areas has become common and outside of all but the most exposed locations this is likely to lead to conversion of the maritime grasslands and maritime heathland to scrub. No loss in extent was recorded from the five SACs supporting this feature which were monitored between 2007 and 2018, although habitat fragmentation was highlighted as an issue at one soft cliff site within Clogwyni Pen Llyn SAC. Nor was any loss recorded from the small number of SSSIs from which monitoring data was available within that time period. There is minimal information relating to trends in the extent of the habitat outside of protected sites, which makes up 26% of the total feature area. However, comparison of selected aerial photographs from 2000 and 2013/14 layers have revealed local losses of habitat to improved grassland and to small scale developments such as car parking.
5.11 Long term trend; Magnitude	5.11 d):The pressures from agricultural intensification and coastal erosion means that a slow decline is likely. See section 5.7.See section 5.7.
5.14 Change and reason for change in surface area	Differences in the habitat extent reported between 2007 and 2018, are primarily due to the substitution of more detailed NVC data for the coarser Phase I data along some sections of coast, with tighter definitions of maritime grassland and maritime heath. There was also some re-interpretation of the existing data which led to the exclusion of some areas of coastal grassland where they were not associated with sea cliffs.

6.2 Condition of habitat; Method used	All the SACs supporting H1230 in Wales have been assessed within the previous two reporting rounds. The most recent result for all these sites was 'unfavourable condition' based on an overall assessment of the feature within each site*. These results, which are based on common standards monitoring, represent a relatively coarse grain assessment of habitat condition and mask a significant level of variation in habitat quality, structure and function across the feature. Generally, the hard cliff crevice and ledge communities, in particular those associated with the splash zone, are little modified and are functionally intact while cliff top habitats are often in poorer condition. However, even with these landward communities there will be stretches of coastline which are in good condition along with other areas in poorer condition. One SSSI where monitoring of coastal grassland had taken place was reported as 'favourable condition'. There is no information relating to condition of this feature outside of statutory sites. *The area taken as in 'Not Good Condition' from the SACs uses the extent figures from the extent within the SACs rather than from the Standard Data N2K Forms.
6.4 Short term trend of habitat area in good condition; Direction	Despite some repeat monitoring from the SAC series and some additional ad hoc records of changes in habitat condition from areas both inside and outside the protected sites series, the overall trend in the area of habitat in good condition is uncertain. The H1230 habitat is subject to ongoing pressures (summarised in Section 7) which will be contributing to a deterioration in condition. Monitoring data from the 2007-2012 reporting round shows the overall condition of the vegetated sea cliff features feature was considered to be unfavourable on all 5 of the Welsh SACs on which it occurs. Repeat monitoring of the habitat was undertaken on three SACs in the 2013-2018 reporting round with each again assessed as 'unfavourable'. Positive management is known to have led to localised and often significant impovements in the condition of H1230 at a number of locations, for example on the Llyn Peninsula where much work has been carried out through the to improve the condition of the coastal habitats primarily through grazing manamgent, ensuring lovestock have access to the cliff tops and introducing cattle grazing. However, although SAC monitoring within Clogwyni Pen Llyn SAC recorded improvements in condition within some CSM monitoring plots, a number of monitoring plots also failed performance indicator targets on other parts of the site due to continued grazing pressure. These changes have not influenced the overall assessment of feature condition on the protected sites where they occur and the evidence is not sufficient to draw conclusions on the net balance between the two. A further 41% of the feature is outside of SACs and is not monitored it is therefore of unknown condition. One SSSI where monitoring of coastal grassland had taken place was reported as 'Favourable'. Within the feature area categorised as 'unknown' there will be some habitat in good condition and some poor. The vertical cliff faces of hard cliffs are subject to less pressures than the cliff top and soft cliff elements of this feature and are therefore more likely to be in favourable condition. Initiatives to improve the quality of the sea cliff habitats by local authorities and NGOs are in place in some areas, outside as well as inside of statutory sites for example Llyn Landscape Partenership. However, outside of protected sites (26% of the feature area) the vegetated sea cliffs are more vulnerable to agricultural intensification and are less likely to have targeted conservation management, the likely outcome of this is that the habitat in good condition is declining although there is little quantitative evidence to substantiate this.

7.3 Additional information

The majority of the pressures and threats have been identified and assessed using NRW's Special Sites Actions Data Base which also includes synthesised data from the LIFE N2K project reports. Where pressures primarily occur outside of protected sites expert judgment was used. The data held in the 'Actions Database' were used to provide a basis for quantifying pressures/threats relating to this habitat within protected sites in this case primarily SACs. The database provides information on 'issues' within the protected sites series, however, these do not always match the pressures listed under Article 17. This information was then matched to expert judgement on the severity of these pressures/threats to give an overall evaluation of the pressure/threat level across the whole feature. The vegetated sea cliffs feature occurs in 431 management units across the 5 SACs in Wales. Some of the pressures listed are closely related and may share the same driver for example under-grazing and/or lack of mowing may drive the expansion of scrub which may also be exacerbated by atmospheric pollution. Pressures: A06: Abandonment of grassland management (e.g. cessation of grazing or of mowing). This is a wide spread pressure and threat occurring both within and outside of protected sites. Issues related to insufficient grazing were listed for 71 of the 431 management units supporting H1230 within SACs. Abandonment and under grazing is an ongoing problem resulting in scrub encroachment in the grassland and heathland communities associated with the cliff tops and gentler slopes. Often the cliff edges are fenced to exclude livestock. One of the causes is that many modern livestock breeds are unsuitable for grazing cliff slopes. Livestock have also been removed in some cases because of disturbance being caused to them by human access especially where dogs are also involved. A08: Lack of mowing and cutting This relates to the maritime heath element of the vegetated sea cliff feature has been identified at as an issue within 4 of the 5 SACs supporting this feature in Wales and is listed as an issue in 16 out of the 431 management units. A10: Extensive grazing or undergrazing by livestock This is a widespread pressure and threat occurring both within and outside of protected sites relating to maritime grassland and maritime heathland. Issues related to insufficient grazing were listed across 71 of the management units within SACs. A36: Grazing type and timing This is a widespread pressure and threat occurring on all 5 SACs which support this feature in Wales and is listed as an issue within 48 out of the 431 SAC management units. Issues can arise when the grazing is by sheep rather than cattle or ponies. Grazing by heavy livestock helps maintain and open varied structure in the maritime heath and stands of bracken. A02: Conversion from one type of agricultural land use to another (excluding drainage and burning). This is a significant issue outside of protected sites. Agricultural improvement of coastal grasslands is a problem on many cliff top sites, the cliff top vegetation is becoming increasingly squeezed between the cliff top and the intensively managed farm land. I04: Problematic Native Species This relates primarily to scrub encroachment. This is a widespread problem highlighted for all SACs with this feature across numerous management units. Lack of appropriate grazing can result in scrub encroachment. Scrub encroachment is listed as an issue within 27 out of the 431 management units and within all of the SACs supporting H1230 in Wales. A further 17 out of the 431 SAC management units are listed as having issues with invasive native species, these include bracken and gorse (there is probably some overlap between the issues listed as 'scrub' and those issues listed as 'invasive species-native'). This is an ongoing management issue but has been reversed on some sites. A11: Burning for agriculture Burning (both too frequent and insufficient) has been highlighted as a pressure in all of the SACs where H1230 is a feature. It is listed as an issue within 16 out of the 431 SAC management units. I02: Invasive Non-Native Species. Non-native species have been identified as a pressure and a threat on all of the SACs supporting the feature. This issue has been identified within 11 out of the 431 SAC management units. Non-native varieties of Cotoneaster are causing problems on a number of sites including Great Orme's Head and The Limestone coast of South Wales. Other non-natives which have established and are impacting the maritime cliff vegetation include

(Disphyma crassifolium) which has affected sea cliffs on Anglesey, Holm oak (Quercus ilex), and White stonecrop (Sedum album) and are also causing problems on the Gower Coast, and Red valerian (Centranthus ruber). Non-native species can affect crevice and ledge communities of the vertical or near vertical cliff faces as well as cliff top vegetation. Himalayan balsam (Impatiens glandulifera) Montbretia,(Crocrosmia x crocosmifolia) and Rhododendron ponticum are present on some soft cliff sites within the Clogwyni Pen Llyn SAC. A26: Agricultural activities generating diffuse pollution to surface or ground waters & A25 Agricultural activities generating point source pollution to surface or ground waters. Pollution of surface waters, particularly as a result of agricultural runoff, has impacted cliff top vegetation and some soft cliffs have been affected. Only point source pollution was reported within the actions data base and that from one management unit alone. However, diffuse pollution is more difficult to detect and is likely to be more widespread; occurring where the cliff top vegetation abuts intensive agricultural land both within and outside of protected sites. J03: Mixed source air pollution, air-borne pollutants There is no nitrogen deposition critical load set for this composite feature type. However, the critical load set for dry heath is 10-20kg/ha/yr and heathland is an important element of H1230. Approximately 31% of this habitat occurs where N-deposition exceeds 10kg/ha/yr. This is likely to be having a detrimental impact, especially for some of the more sensitive terrestrial components. Sea cliffs are also notable for their rich lichen assemblages many of which are known to be particularly sensitive to air pollution. F08: Modification of the coastline Coastal defence structures are having a detrimental impact on certain soft cliff sites by preventing natural erosion. The creation of bare surfaces is important for the ruderal vegetation communities which are characteristic of mobile soft cliffs and certain invertebrates. A09: Intensive grazing or overgrazing by livestock Overgrazing issues have been identified within two SACs and 10 management units (out of the 431 management units within all of the SACs supporting H1230). In addition, both current and historical heavy grazing was identified as a cause or potential cause of plot failure for a number of CSM monitoring plots within different management units within Clogwyni Pen Llyn SAC. However, intensive grazing is also widespread on cliff tops outside of protected sites. Effects of overgrazing include a decrease in species diversity, the spread of agricultural weed species such as nettles and thistles and poor sward structure. A decline in flowering species has had knock-on effects for bees and other invertebrates. F07: Sports, tourism and leisure activities. Pressures and threats relating to recreation have been highlighted at 4 of the 5 SACs supporting this feature. However, the issues are localised and only apply to a small number of management units where access is highest. Issues include trampling leading to damage to vegetation and erosion. Off road vehicle use has been a problem at least one site. Climbing can also have an impact on certain ledge and crevice vegetation and where unregulated may have an adverse impact on cliff nesting birds. Discouragement/ disturbance to livestock leading to under-grazing is also listed as an issue due to access. A19 & A20: Application of Fertilizer Outside of protected sites this has become a problem on many cliff tops due to agricultural improvement of coastal grasslands. Application of fertilisers has also been highlighted as an issue on 2 management units within two SACs. H04: Vandalism or arson Accidental or deliberate fires can be a major threat on some sites. This is an issue highlighted within the Glannau Ynys Gybi SAC. I03: Other alien species (not invasive). Grazing by feral goats is a pressure at Great Orme's Head. K05: Physical alteration of water bodies: Cliff top drainage and alteration of water courses has had a detrimental impact on certain soft cliffs. Threats: All current pressures are considered to be ongoing and, in the absence of significant new conservation measures, will continue to apply at a similar level of intensity over the next two reporting rounds. In addition to the ongoing pressures described above the following threats have been identified: N04: Sea-level and wave exposure changes due to climate change N05: Change of habitat location, size, and / or quality due to climate change. N08: Change of species distribution (natural newcomers) due to climate

	change. Increased erosion due to sea level rise and wave exposure will lead to coastal squeeze where there are no buffer zones or opportunities for 'habitat to 'roll back'. This will lead to habitat loss and fragmentation. Increases in wave exposure are also likely have some effect on the distribution of the rock crevice vegetation. One of the main impacts of climate change is the shift in the distribution of species to higher latitudes and altitude as populations attempt to track suitable climatic conditions.
8.5 List of main conservation measures	Conservation measures within the SACs were assessed using the Special Sites Database, an internal NRW database. Almost three quarters of H1230 (74%) lies within SSSIs of which 59% is within SAC. Management agreements with NRW cover 14% of the feature area (taken from the NRW GIS agreements layer March 2018), a further 4% of the feature is covered by the Glastir agri-environment scheme. (CA01, CA03 & CA09). 43 of the 91 issues relating to 'insufficient grazing' are now listed as 'under control' (CA04.). Issues surrounding 'grazing type and timing' were identified within 69 management units, 18 relating to these units were listed as 'under control'. Twelve units were identified where over grazing was an issue, four actions were complete. Four actions against 'insufficient mowing have also been completed (CA05). Across the 28 units where scrub is listed as an issue, 21 actions have been completed, 11 are under control (CI05, CA04). Application of fertilizer to cliff top vegetation for agricultural improvement is likely to be occurring outside of protected sites. The scale of this issue needs to be assessed and addressed (CA09). 21 issues within 15 management units were identified where invasive native species required management- primarily gorse and bracken 3 actions are listed as complete with none under control (CI05). Implementation of climate change adaptation measures (CN01) including the creation of buffer zones with appropriate conservation management and restoration of connectivity to increase resilience need to be initiated. Critical locations include some of the more rapidly eroding cliffs. Actions relating to non-native species were identified in 11 units across 4 SACs within the NRW Actions Database. 3 actions are listed as complete, but all issues identified still need control (C103). Reduction of diffuse and point source pollution from intensively farmed land adjacent to sea cliff habitat is an issue that needs to be assessed and addressed both outside of protected sites and where protected sites (CA10 & 11). Within the 16 units where fire (deliberate or accidental) was listed as an issue, 27 issues were identified, 8 actions are complete and 2 issues are under control (CH04, CA03) Within the 5 units, seven issues were identified relating to recreation and access. Two of these actions are complete and under control (CF03).
9.1 Future prospects of parameters	9.1c: Although much of this feature (74%) is within the protected sites series many of the actions against the most significant pressures identified in the NRW Actions Database are not yet recorded as 'complete' or 'under control'. Therefore, pressures such as abandonment and under-grazing continue to impact on the typical species and other aspects of structure and function of the coastal slope vegetation. Nitrogen deposition is known to exceed the critical load for roughly a third of this feature (based on the critical load for the heath element of this feature). Although emissions are falling deposition is likely to exceed the critical levels for some time. This increases the likelihood of invasion by more nitrophilic, competitive grasses and continue to have detrimental effects on the habitat in the long term.

9.1 Future prospects of parameters	9.1a: Whilst future prospects for area are considered negative the feature is expected to persist across the current range at the 10kmsq level over the next 12 years. 9.1b: A high proportion of H1230 is within the protected sites series (74%), however, the sea cliff habitat is compromised in many parts of the coast; confined to a very narrow strip with no buffer zone from areas of intensive agricultural land or space to allow for roll back of habitats responding to natural erosive processes. The risk of increase in erosion rates due to the effects of climate change will put further pressure on the feature extent. If pressure such as agricultural abandonment and the encroachment of more intensive agricultural management continue and will inevitably lead to a slow decline in the area of the feature and fragmentation of the habitat.
11.3 Surface area of the habitat type inside the network; Method used	see section 2.3
11.4 Short term trend of habitat area in good condition within the network; Direction	All of the 5 SACs supporting this feature were reported as being in 'unfavourable condition' in the 2007-2012 reporting round. In the 2013-2018 reporting round 3 of these SACs were monitored, and all were reported as unfavourable. On the basis that two of the 5 SACs were not monitored in the most recent reporting round the trend within the SACs is reported as 'uncertain'.