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

Conservation status assessment for the habitat:

H21A0 - Machairs

UNITED KINGDOM

IMPORTANT NOTE - PLEASE READ

- The information in this document represents 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.
- It is based on supporting information provided by the geographically-relevant Statutory Nature Conservation Bodies, which is documented separately.
- The 2019 Article 17 UK Approach document provides details on how this supporting information contributed to the UK Report and the fields that were completed for each parameter.
- The reporting fields and options used are aligned to those set out in the European Commission guidance.
- Maps showing the distribution and range of the habitat are included (where available).
- Explanatory notes (where provided) are included at the end. These provide additional audit trail information to that included within the UK assessments. Further underpinning explanatory notes are available in the related country-level and/or UK offshore-level reports.
- Some of the reporting fields have been left blank because either: (i) there was insufficient information to complete the field; and/or (ii) completion of the field was not obligatory.
- The UK-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**
1.2 Habitat code	**21A0 - Machairs**

2. Maps

2.1 Year or period	1983-2016
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	Scotland https://www.environment.gov.scot/our-environment/habitats-and-species/habitat-map-of-scotland/ The Sand Dune Vegetation Survey of Scotland, Tom Dargie 1994-2000 National Report The Sand Dune Vegetation Survey of Scotland 2012 SNH Natural Spaces dataset Angus, S. 2006. De tha machair? Towards a machair definition. Sand dune machair 4,7-22. Aberdeen Institute for Coastal Science & Management, Aberdeen Janine M Morris, Site Condition Monitoring of Coastal Habitats. (National Contract, Year 2009-2010) and Site Condition Monitoring of Coastal Habitats (National Contract, Year 2010-2011). Contract No: 25639 SNH Site Condition Monitoring results Cycle 3 (from 1 April 2012): see Scotland's environment website. [From the website Detailed tab, select Coastal features by clicking the Feature filter on the left of the screen, then Feature Category= Coast. Data can be exported to spreadsheet by right clicking the table at the bottom of the screen, then Export, then Export Table. Cycle 3 assessments can be seen by filtering the spreadsheet on the 'LatestAssessedSCMcycle' column]. SNH Site Condition Monitoring results Cycle 3 (from 1 April 2012): see Scotland's environment website. [From the website Detailed tab, select Coastal features by clicking the Feature filter on the left of the screen, then Feature Category= Coast. Data can be exported to spreadsheet by right clicking the table at the bottom of the screen, then Export, then Export Table. Cycle 3 assessments can be seen by filtering the spreadsheet on the 'LatestAssessedSCMcycle' column]. http://jncc.defra.gov.uk/pdf/Article17Consult_20131010/H21A0_SCOTLAND.pdf

4. Range

4.1 Surface area (in km²)	5949.19
4.2 Short-term trend Period	2007-2018
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	Based mainly on extrapolation from a limited amount of data
4.6 Long-term trend Period	

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4.7 Long-term trend Direction		
4.8 Long-term trend Magnitude	a) Minimum	b) Maximum
4.9 Long-term trend Method used		
4.10 Favourable reference range	a) Area (km²)	5949.19
	b) Operator	
	c) Unknown	No
	d) Method	The FRR is approximately equal to the current range area. The FRR value has been updated to take account of improved information on the habitat range. The approach taken to set the FRR is explained in the 2007 and 2013 UK Article 17 habitat reports (see http://jncc.defra.gov.uk/page-4064 and http://jncc.defra.gov.uk/page-6563).
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	1983-2016			
5.2 Surface area (in km²)	a) Minimum	b) Maximum	c) Best single value	116.8
5.3 Type of estimate	95% confidence interval			
5.4 Surface area Method used	Complete survey or a statistically robust estimate			
5.5 Short-term trend Period	2001-2016			
5.6 Short-term trend Direction	Stable (0)			
5.7 Short-term trend Magnitude	a) Minimum	b) Maximum	c) Confidence interval	
5.8 Short-term trend Method used	Based mainly on extrapolation from a limited amount of data			
5.9 Long-term trend Period				
5.10 Long-term trend Direction				
5.11 Long-term trend Magnitude	a) Minimum	b) Maximum	c) Confidence interval	
5.12 Long-term trend Method used				
5.13 Favourable reference area	a) Area (km²)	116.8		
	b) Operator			
	c) Unknown	No		
	d) Method	The FRA is approximately equal to the current area. The FRA value has been updated to take account of improved information on the habitat area. The approach taken to set the FRA is explained in the 2007 and 2013 UK Article 17 habitat reports (see http://jncc.defra.gov.uk/page-4064 and http://jncc.defra.gov.uk/page-6563).		
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

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6.1 Condition of habitat	a) Area in good condition (km²)	Minimum	41.65	Maximum	41.65
	b) Area in not-good condition (km²)	Minimum	2.75	Maximum	2.75
	c) Area where condition is not known (km²)	Minimum	72.4	Maximum	72.4
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	2001-2016				
6.4 Short-term trend of habitat area in good condition Direction	Stable (0)				
6.5 Short-term trend of habitat area in good condition Method used	Based mainly on extrapolation from a limited amount of data				
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
Intensive grazing or overgrazing by livestock (A09)	M
Application of synthetic (mineral) fertilisers on agricultural land (A20)	H
Modification of hydrological flow or physical alteration of water bodies for agriculture (excluding development and operation of dams) (A33)	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)	H
Closure or restricted access to site/habitat (H06)	M
Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (L01)	M
Flooding (natural processes) (M08)	M
Increases or changes in precipitation due to climate change (N03)	M
Sea-level and wave exposure changes due to climate change (N04)	M

Threat	Ranking
Intensive grazing or overgrazing by livestock (A09)	M
Application of synthetic (mineral) fertilisers on agricultural land (A20)	H

Modification of hydrological flow or physical alteration of water bodies for agriculture (excluding development and operation of dams) (A33)	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)	H
Closure or restricted access to site/habitat (H06)	M
Abiotic natural processes (e.g. erosion, silting up, drying out, submersion, salinization) (L01)	H
Flooding (natural processes) (M08)	M
Increases or changes in precipitation due to climate change (N03)	H
Sea-level and wave exposure changes due to climate change (N04)	H

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		Medium-term results (within the next two reporting periods, 2019-2030)
8.5 List of main conservation measures		

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

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

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

8.6 Additional information

9. Future prospects

9.1 Future prospects of parameters	a) Range	Good
	b) Area	Unknown
	c) Structure and functions	Unknown
9.2 Additional information		Future trend of Range is Overall stable; Future trend of Area is Unknown; and Future trend of Structure and functions is Unknown

10. Conclusions

10.1. Range	Favourable (FV)
10.2. Area	Favourable (FV)

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10.3. Specific structure and functions (incl. typical species)	Favourable (FV)
10.4. Future prospects	Unknown (XX)
10.5 Overall assessment of Conservation Status	Favourable (FV)
10.6 Overall trend in Conservation Status	Stable (=)
10.7 Change and reasons for change in conservation status and conservation status trend	a) Overall assessment of conservation status Genuine change The change is mainly due to: Genuine change b) Overall trend in conservation status Genuine change Use of different method The change is mainly due to: Genuine change
10.8 Additional information	Conclusion on Range reached because: (i) the short-term trend direction in Range surface area is stable; and (ii) the current Range surface area is approximately equal to the Favourable Reference Range. Conclusion on Area covered by habitat reached because: (i) the short-term trend direction in Area is stable; and (ii) the current Area is approximately equal to the Favourable Reference Area. Conclusion on Structure and functions reached because habitat condition data indicates that less than c.5% of the habitat is in unfavourable (not good) condition. Conclusion on Future prospects reached because: (i) the Future prospects for Range are good; (ii) the Future prospects for Area covered by habitat are unknown; and (iii) the Future prospects for Structure and functions are unknown. Overall assessment of Conservation Status is Favourable because none of the conclusions are Unfavourable and only one is Unknown. Overall trend in Conservation Status is based on the combination of the short-term trends for Range - stable, Area covered by habitat - stable, and Structure and functions - stable. The Overall assessment of Conservation Status has changed between 2013 and 2019 because the conclusion for Structure and functions has changed from Unfavourable-inadequate to Favourable, and the conclusion for Future Prospects has changed from Unfavourable-inadequate to Unknown. The Overall trend in Conservation Status has changed between 2013 and 2019 because the Structure and functions trend has changed from increasing to stable, and because of the removal of the Future prospects trend from the 2019 method used to assess Overall trend.

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 16.83
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	Stable (0)
11.5 Short-term trend of habitat area in good condition within network Method used	Based mainly on extrapolation from a limited amount of data
11.6 Additional information	

12. Complementary information

12.1 Justification of % thresholds for trends	
12.2 Other relevant information	

Distribution Map

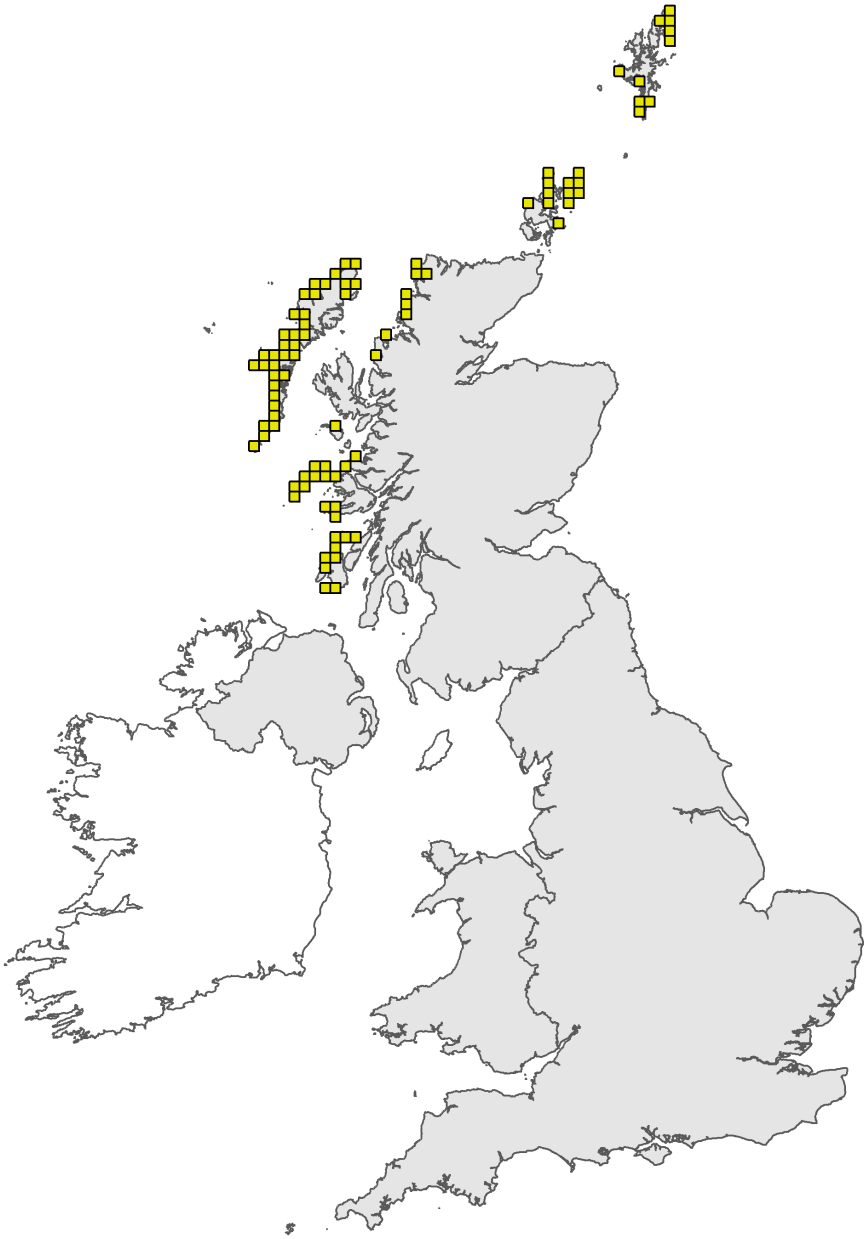

Figure 1: UK distribution map for H21A0 - Machairs. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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

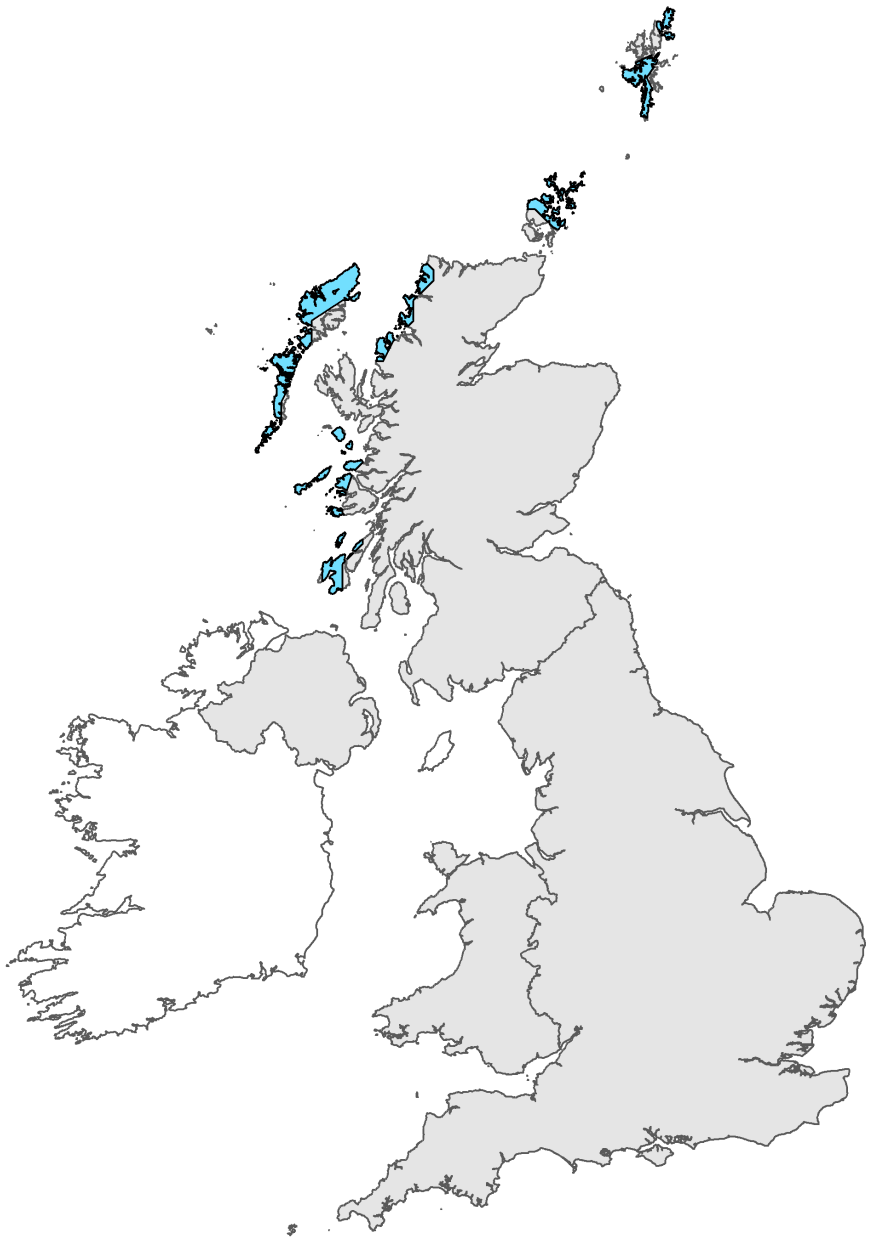

Figure 2: UK range map for H21A0 - Machairs. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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.