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:

H2190 - Humid dune slacks

SCOTLAND

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 (Scotland information only)**
1.2 Habitat code	**2190 - Humid dune slacks**

2. Maps

2.1 Year or period	1987-2003
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	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 Angus, S., Hansom, J.D. and Rennie, A. 2011. Habitat Change on Scotland's Coasts - The Changing Nature of Scotland, eds. S.J. Marrs, S. Foster, C. Hendrie, E.C. Mackey, D.B.A. Thompson. TSO Scotland, Edinburgh, pp 183-198. 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 Angus, S. (2008). Outline planning permission for golf course and resort development on land at Menie House, Balmedie, Aberdeen. Principal precognition of Stewart Angus on behalf of Scottish Natural Heritage (DPEA REFERENCE CIN/ABS/001) Dargie, T. 2008. Status, extents, development impacts and mitigation for key vegetation types and rare species at Menie. Production T55, Public Local Inquiry. The Sand Dune Vegetation Survey of Scotland 2012 SNH Natural Spaces dataset 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/H2190_SCOTLAND.pdf

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		

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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) 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	Final data has become available from translation of the Sand Dune Survey of Scotland to Annex I habitats as well as some other NVC surveys and this has given a more complete picture of the distribution of this habitat in Scotland. All AD16 from the SDVSS has been translated to H2190 in the absence of concrete evidence for H2170 which is a much rarer habitat in Scotland		

5. Area covered by habitat

5.1 Year or period	1987-2003		
5.2 Surface area (in km²)	a) Minimum	b) Maximum	c) Best single value 13.23
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	2009-2016		
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			
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) 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	The Sanddune Survey of Scotland has now been completely translated from NVC to Annex I habitats and is available through HabMoS which has given a revised extent figure for this habitat (which is greater than previously reported). This figure is 13.38 km2. However 0.155 km2 has been lost at Foveran Links and South Menie from Golf Course Development, so this has been subtracted from that figure - to give 13.23 km2 habitat. There are still some issues with the data from HaBMoS (some overlapping polygons) but this is our best current data. All polygons of SD16 have been translated to H2190 (rather than H2170) from the SDVSS as H2170 is very rare in Scotland.		

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6. Structure and functions

6.1 Condition of habitat	a) Area in good condition (km^2)	Minimum	6.48	Maximum 6.48
	b) Area in not-good condition (km^2)	Minimum	6.26	Maximum 6.26
	c) Area where condition is not known (km^2)	Minimum	0.49	Maximum 0.49
6.2 Condition of habitat Method used	Complete survey or a statistically robust estimate			
6.3 Short-term trend of habitat area in good condition Period	2005-2017			
6.4 Short-term trend of habitat area in good condition Direction	Decreasing (-)			
6.5 Short-term trend of habitat area in good condition Method used	Based mainly on expert opinion with very limited 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	Significant concerns are raised in the SCM2 survey over the lack of formation of new humid dune slack habitat and the lack of a range of slack types from embryo to mature at many sites. The overall resource is becoming senescent and natural processes are currently unable to reverse the negative trend. The stabilisation of the largest active and sheet in Scotland for the development of a golf course on the Foveran Links SSSI and South Menie dunes has impacted on the best example of embryo slack community (SD13) in Scotland			

7. Main pressures and threats

7.1 Characterisation of pressures/threats

Pressure	Ranking
Mixed source air pollution, air-borne pollutants (J03)	M
Droughts and decreases in precipitation due to climate change (N02)	M
Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (L02)	H
Problematic native species (I04)	M
Extensive grazing or undergrazing by livestock (A10)	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 modification of hydrological conditions for residential or recreational development (F31)	M

Threat	Ranking
Mixed source air pollution, air-borne pollutants (J03)	M

Droughts and decreases in precipitation due to climate change (N02)	H
Natural succession resulting in species composition change (other than by direct changes of agricultural or forestry practices) (L02)	H
Problematic native species (I04)	M
Extensive grazing or undergrazing by livestock (A10)	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
Other modification of hydrological conditions for residential or recreational development (F31)	H

7.2 Sources of information

7.3 Additional information

Golf courses
Alteration of sandune hydrology by golf courses (water abstraction)- leading to lowered water table

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

Only inside 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

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

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

Future prospects remain bad and deteriorating. This is a widespread problem affecting the habitat across much of its European range but it has been exacerbated by the loss of active dunes at the Foveran Links SSSI and South Menie dunes. There is a need for both the management of the existing resource (to control scrub, set appropriate grazing levels etc.) and also the rejuvenation of habitats through allowing natural processes to operate or through habitat restoration work. Nitrogen deposition will likely have a moderate impact on this habitat

10. Conclusions

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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	
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 5.66
11.2 Type of estimate	Best estimate
11.3 Surface area of the habitat type inside the network Method used	Based mainly on extrapolation from a limited amount of data
11.4 Short-term trend of habitat area in good condition within the network Direction	Unknown (x)
11.5 Short-term trend of habitat area in good condition within network Method used	Insufficient or no data available
11.6 Additional information	

12. Complementary information

12.1 Justification of % thresholds for trends	
12.2 Other relevant information	

Distribution Map

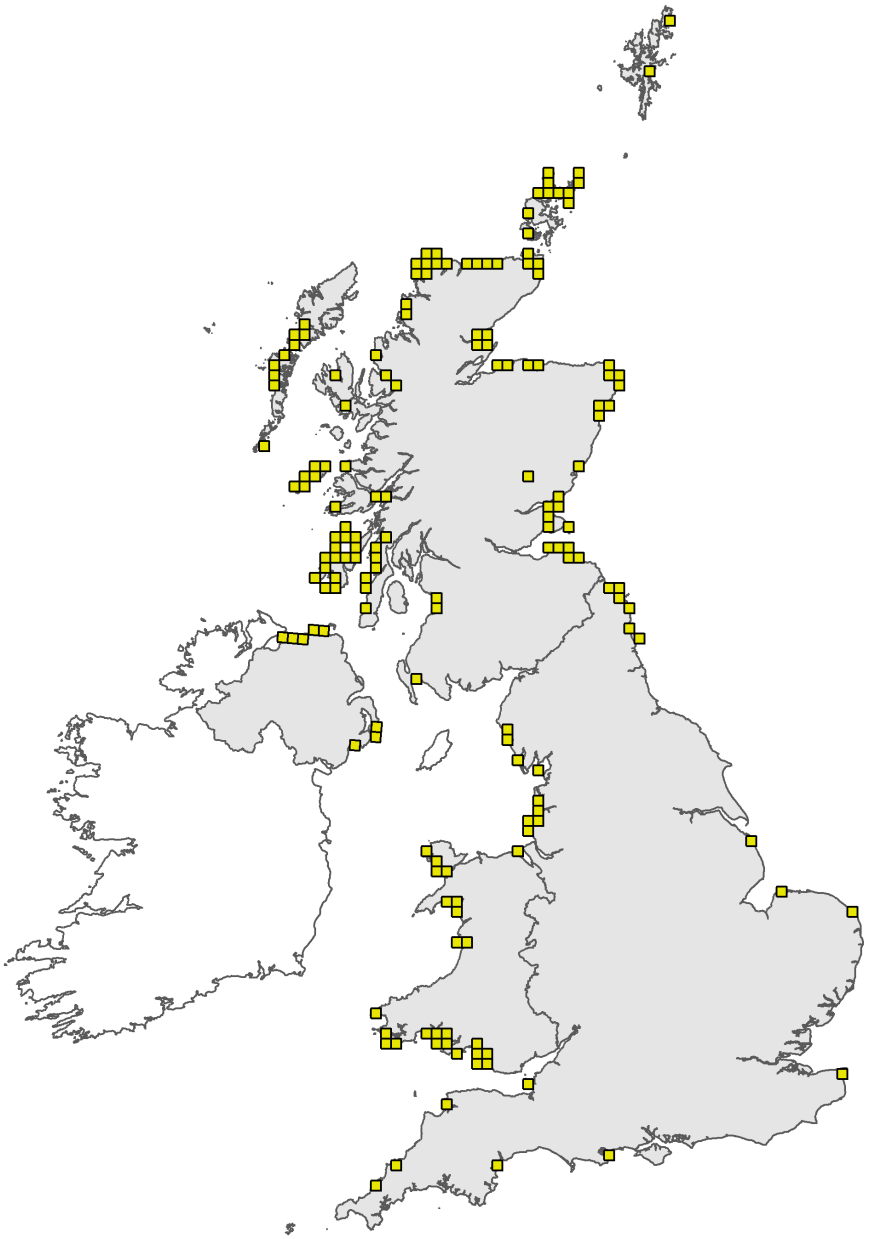

Figure 1: UK distribution map for H2190 - Humid dune slacks. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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

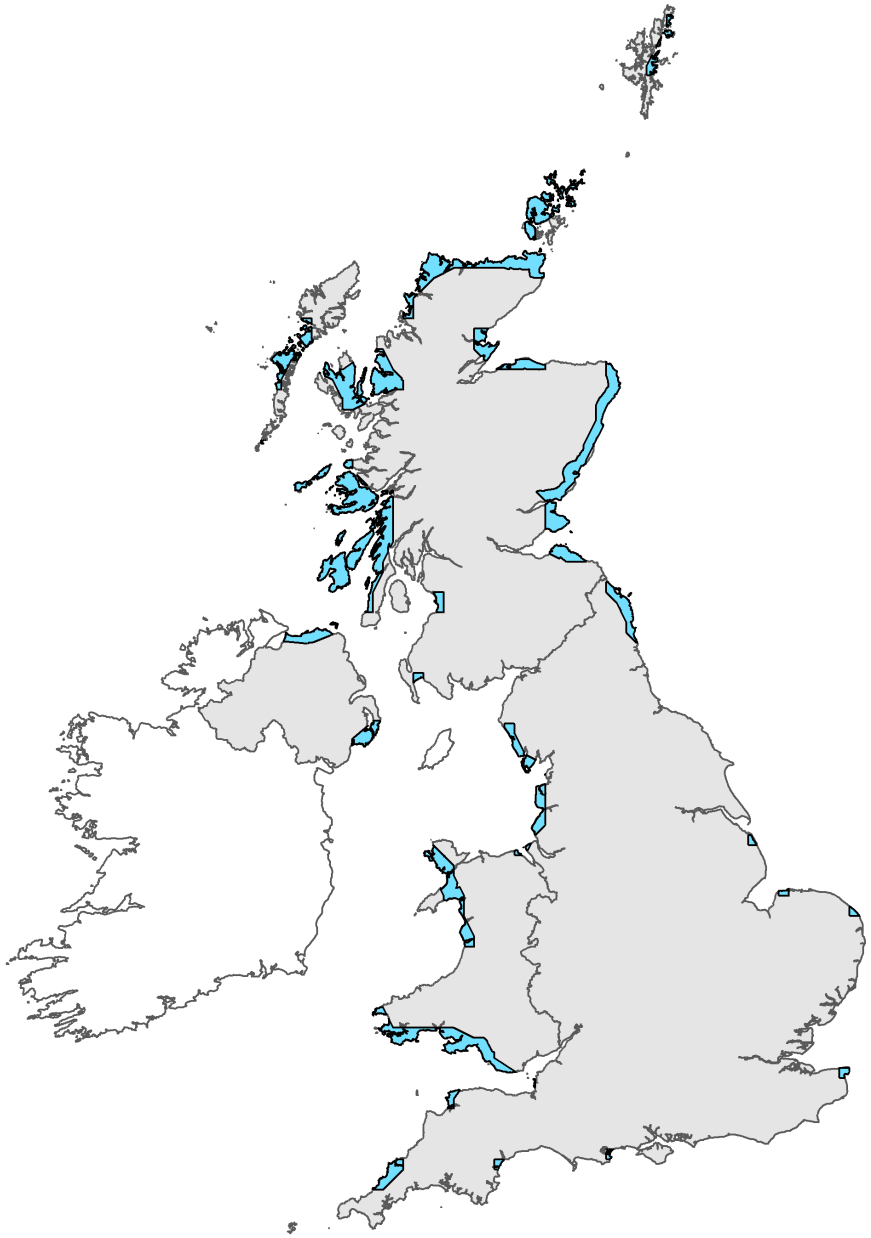

Figure 2: UK range map for H2190 - Humid dune slacks. Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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.