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:

H2130 - Fixed dunes with herbaceous vegetation (`grey dunes`)

NORTHERN IRELAND

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 (Northern Ireland information only)**
1.2 Habitat code	**2130 - Fixed coastal dunes with herbaceous vegetation ("grey dunes")**

2. Maps

2.1 Year or period	2013-2018
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	Data on aerial Nitrogen deposition taken from Air Pollution Information System website - http://www.apis.ac.uk/ Cooper, E.A., Crawford, I., Malloch, A.J.C. & Rodwell, J.S. (1992). Coastal vegetation survey of Northern Ireland. Lancaster, Lancaster University Environment and Heritage Service, Belfast. Northern Ireland Habitat Action Plan - Coastal Sand Dunes - March 2005 JNCC (1997). Coasts and seas of the United Kingdom, Region 17 Northern Ireland. Coastal Directories Series NIEA. Internal Condition Assessment Reports (various sites and years). Rodwell, J.S. (2000). British Plant Communities. Volume 5, Maritime Communities and Vegetation of Open habitats. Cambridge: Cambridge University Press Rodwell, J.S., Dring, J.C., Averis, A.B.V., Proctor, M.C.F., Malloch, A.J.C., Schaminee, J.H.J & Dargie, T.C.D. 1998. Review of Coverage of the National Vegetation Classification. Lancaster: Unit of Vegetation Science report to the Joint Nature Conservation Committee. Carter and Wilson, 1990 Pye, K. 1990. Physical and human influences on coastal dune development between the Ribble and Mersey estuaries, north-west England. IN/ Nordstrom K.F., Psuty N. P. & Carter R.W.G. (eds.) Coastal dunes: form and process. Wiles, Chichester. Pp337-359

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		
4.10 Favourable reference range	a) Area (km²)	

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	b) Operator	
	c) Unknown	No
	d) Method	
4.11 Change and reason for change in surface area of range	No change	
	The change is mainly due to:	
4.12 Additional information		

5. Area covered by habitat

5.1 Year or period	2013-2018		
5.2 Surface area (in km²)	a) Minimum	b) Maximum	c) Best single value 10
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	Stable (0)		
5.7 Short-term trend Magnitude	a) Minimum	b) Maximum	c) Confidence interval
5.8 Short-term trend Method used	Complete survey or a statistically robust estimate		
5.9 Long-term trend Period	1994-2018		
5.10 Long-term trend Direction	Stable (0)		
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	No change		
	The change is mainly due to:		
5.15 Additional information			

6. Structure and functions

6.1 Condition of habitat	a) Area in good condition (km²)	Minimum 0	Maximum 0
	b) Area in not-good condition (km²)	Minimum 10	Maximum 10
	c) Area where condition is not known (km²)	Minimum 0	Maximum 0
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	2013-2018		
6.4 Short-term trend of habitat area in good condition Direction	Increasing (+)		

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6.5 Short-term trend of habitat area in good condition Method used	Complete survey or a statistically robust estimate
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
Other invasive alien species (other then species of Union concern) (I02)	M
Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (C01)	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
Development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning (F06)	M
Sports, tourism and leisure activities (F07)	M
Military, paramilitary or police exercises and operations on land (H01)	M
Agricultural activities generating air pollution (A27)	M

Threat	Ranking
Abandonment of grassland management (e.g. cessation of grazing or mowing) (A06)	M
Sea-level and wave exposure changes due to climate change (N04)	M
Agricultural activities generating air pollution (A27)	H
Other invasive alien species (other then species of Union concern) (I02)	M
Extraction of minerals (e.g. rock, metal ores, gravel, sand, shell) (C01)	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
Development and maintenance of beach areas for tourism and recreation incl. beach nourishment and beach cleaning (F06)	M
Sports, tourism and leisure activities (F07)	M

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Military, paramilitary or police exercises and operations on land (H01)	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		

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

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

Reduce impact of outdoor sports, leisure and recreational activities (CF03)

Implement climate change adaptation measures (CN02)

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

Reduce/eliminate air pollution from agricultural activities (CA12)

Adapt/manage extraction of non-energy resources (CC01)

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	
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 9.753
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	Increasing (+)
11.5 Short-term trend of habitat area in good condition within network Method used	Complete survey or a statistically robust estimate
11.6 Additional information	

12. Complementary information

12.1 Justification of % thresholds for trends	
12.2 Other relevant information	

Distribution Map

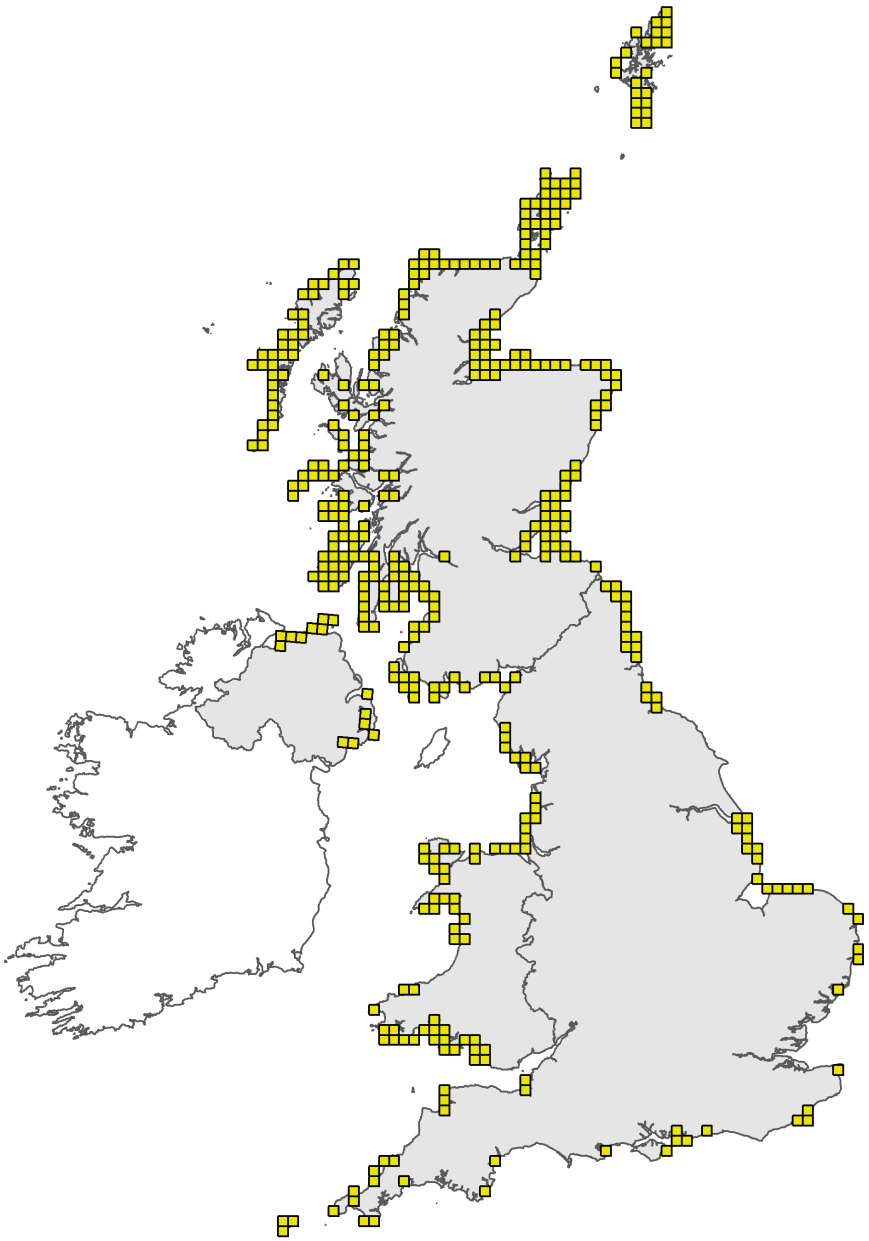

Figure 1: UK distribution map for H2130 - Fixed dunes with herbaceous vegetation (`grey dunes`). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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

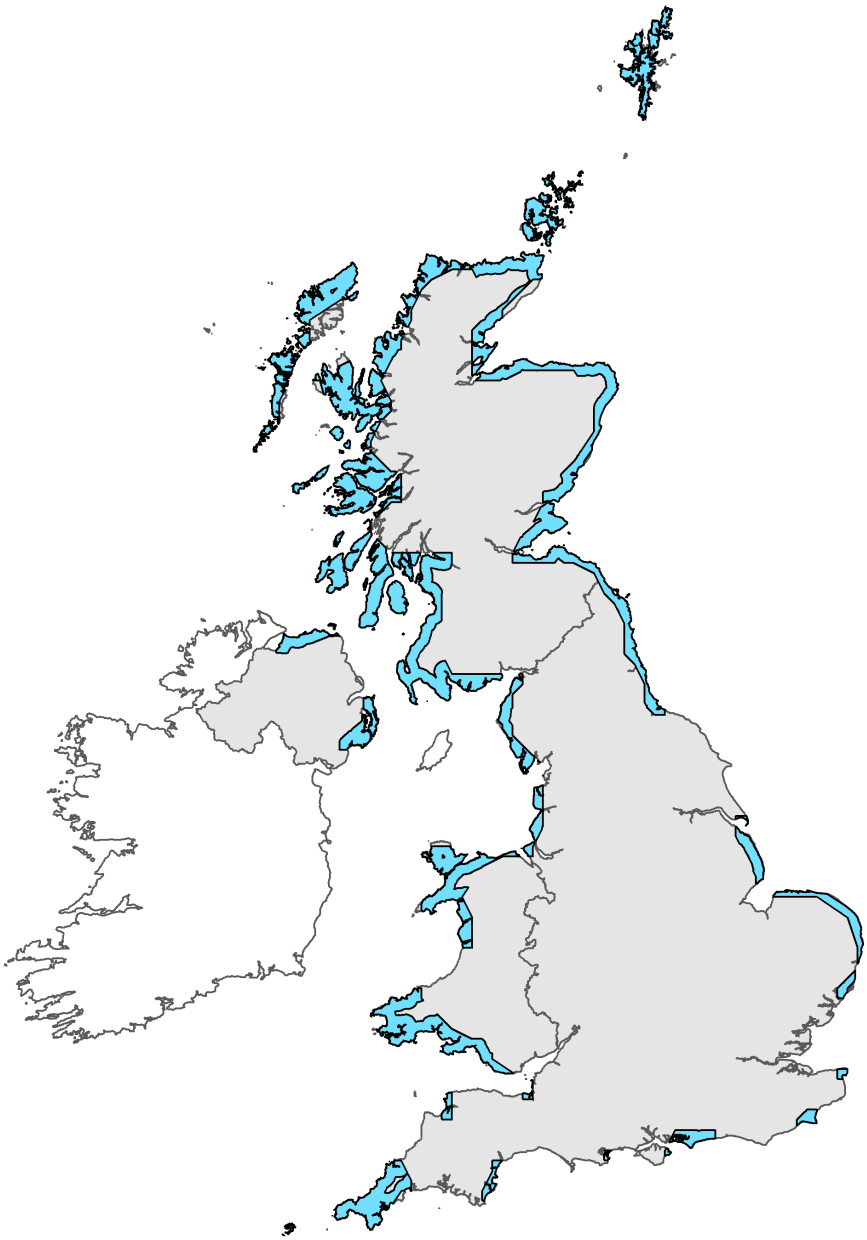

Figure 2: UK range map for H2130 - Fixed dunes with herbaceous vegetation (`grey dunes`). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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: 2130

Field label	Note
2.2 Distribution map	In NI, the habitat is comparatively widespread around the coast (NI Coastal Survey - Cooper et al 1992). The following NVC communities have been recorded from SACs: (i) NVC type SD7 occurs very frequently at Magilligan, Bann Estuary (Portstewart and Grangemore), and Murlough (the latter is the only site in NI for the SD7c Ononis repens sub-community, which is a southerly community); it is also present at North Antrim Coast (Whitepark Bay) and Killard, with a single quadrat recorded for the Giant's Causeway; (ii) SD8 is one of the most common dune communities in NI. It occurs extensively at Magilligan, North Antrim Coast (Whitepark Bay) and to a lesser extent Murlough. Grey Dune is also present at Tyrella and Minerstown ASSI, Outer Ards ASSI and at a few other localities scattered around the NI coast.
2.3 Distribution map; Method used	The maps are based upon the NI Coastal Vegetation Survey (Cooper et al, 1992) with subsequent fieldwork to confirm presence in these locations, plus other known locations.

Habitat code: 2130 Region code: ATL

Field label	Note
10.6 Overal trend in Conservation Status	With the improvement in status over the reporting period in structure and function, and other factors favourable, the trend is improving.
4.1 Surface area	No evidence of loss from any of the known locations for the habitat.
4.5 Short term trend; Method used	Based upon regular condition monitoring of protected coastal sites. This covers most of the major locations for the habitat in NI.
5.2 Surface area	Surface area estimated from known sites and extrapolation.
6.1 Condition of habitat	Condition data for SACs and ASSIs are believed to be indicative of the condition of the habitat across NI, as a large proportion of the habitat is in the protected sites network. Although the whole resource is reported as not good, a high proportion (c.75%) is in recovering condition with favourable management in place.
6.2 Condition of habitat; Method used	Data taken from the most recent Common Standards Monitoring on SACs and ASSIs that contain the habitat.

7.1 Characterisation of pressures/ threats	Grazing is normally necessary to maintain the typical fixed dune communities. Over-grazing can have damaging effects, but at present, the more widespread problem is undergrazing, leading to invasion by coarse grasses and scrub - including both invasive non-native species such as Sea Buckthorn, and by problematic native species, such as Gorse and Blackthorn. Bracken may be an issue on more acidic dune systems. Rabbits can be locally effective in maintaining a short turf, but their population often fluctuates dramatically. Recreation is a major land use on sand dunes. Moderate pressure by pedestrians may cause little damage, and may even help to counteract the effects of abandonment of grazing. However, excessive pedestrian use, as on routes between car parks and beaches, and vehicular use in particular, can lead to severe erosion. Golf courses are present on some sites, and may be beneficial in retaining much of the original grey dune vegetation in the roughs, although fairways and greens are often severely modified by mowing, fertilising and re-seeding. Parts of the habitat at both Magilligan and Murlough are managed by MOD as military ranges with positive management measures in place. Many dune systems are affected by sea defence works or artificial stabilisation measures such as sand fencing and marram planting. While carefully applied dune management measures can help to counteract severe erosion, engineered defence systems usually reduce the natural dynamism of dune systems, and may cause sediment starvation down-drift. UK dunes as a whole (including NI) suffer from over-stabilisation and poor representation of the mobile phases. Nutrient enrichment is possibly one of the greatest threats to the long-term conservation of this habitat. The critical load range for grey dunes is 8-10 kg N /ha/yr for acid dunes and 10 - 15 kg N/ha/yr for calcareous dunes. All four SACs in NI for this habitat exceed these figures (at least the lower threshold). Although the habitat is not likely to be subjected to the most immediate impacts of climate change (and particularly sea-level rise and increased storminess) there will inevitably be some effects on the habitat, through mobilising and re-distributing sand supplies within the overall dune complex. It is difficult to predict what the long-term effects of this will be. Across the UK, there is widespread concern at the extent of stabilisation of this habitat, and its subsequent conversion to grey dune through natural successional processes. Sea-level rise may therefore actually benefit the habitat through remobilising large volumes of sand. Hence assessed as uncertain.
7.2 Sources of information	Threats and pressures assessed from monitoring of existing protected sites and judgement on future trends.
8.1 Status of measures	Measures currently in place at several sites to re-introduce (or maintain) livestock grazing and to control invasive native and non-native species.
8.2 Main purpose of the measures taken	Measures aimed at reducing rank growth and controlling scrub encroachment.
8.4 Response to the measures	Indications from monitoring suggest that these measures are proving successful, but need to be maintained and extended across a wider area of the habitat.
10.1 Range	There is no evidence of loss from any of the major sites for the habitat in NI. Therefore current range occupied by the habitat in NI judged favourable.
10.2 Area	There is no evidence of loss from any of the major sites for the habitat in NI. Indeed, it is likely that the extent of the habitat has increased somewhat over the past few decades as a result of White Dunes becoming more stable and developing into grey dune. Therefore current area occupied by the habitat in NI judged favourable.
10.3 Specific structure and functions	Although the whole resource is reported as not good, a high proportion (c.75%) is in recovering condition with favourable management in place. Some sites have moved from unfavourable to recovering status over the past 10 years or less. Hence this is recorded as Unfavourable Inadequate, with an improving trend.

10.4 Future prospects	Although many of the issues currently affecting the structure and function of the habitat are being addressed through sympathetic management, future prospects are judged to be uncertain in the light of potential impacts of sea level rise and climate change, and particularly the impact of atmospheric deposition of Nitrogen, due to the high sensitivity of the habitat to this pressure.
10.5 Overall assessment of Conservation Status	Range and extent are stable; structure and function have shown some improvement over the reporting period. Future prospects are rather uncertain, with Nitrogen deposition and climate change unpredictable. Hence an overall unfavourable inadequate assessment.
11.1 Surface area of the habitat type inside the pSCIs, SCIs and SACs network	Habitat is present at four SACs - Bann Estuary, Magilligan, North Antrim Coast (White Park Bay) and Murlough.
11.3 Surface area of the habitat type inside the network; Method used	All SACs mapped to NVC standard and CSM ongoing on a regular basis.
11.5 Short term trend of habitat area in good condition within the network; Method used	Conclusion based upon recent condition assessment data - although habitat actually reported as being in bad condition, a high proportion is recorded as recovering - hence trend is improving.