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:

H1110 - Sandbanks which are slightly covered by sea water all the time

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	**1110 - Sandbanks which are slightly covered by sea water all the time**

2. Maps

2.1 Year or period	
2.3 Distribution map	Yes
2.3 Distribution map Method used	
2.4 Additional maps	No

BIOGEOGRAPHICAL LEVEL

3. Biogeographical and marine regions

3.1 Biogeographical or marine region where the habitat occurs	**Marine Atlantic (MATL)**
3.2 Sources of information	Allen, C., Axelsson, M., Doran, J., I7& Dewey, S. (2014). Survey of marine features within the Luce Bay and Sands Special Area of Conservation (SAC). Scottish Natural Heritage Commissioned Report No. 738. Axelsson, M.1, Dewey, S.1, Tourell, A.1 and Karpouzli, E.2 (2006). Site condition monitoring - the sublittoral sandbanks of the Solway Firth. Scottish Natural Heritage Commissioned Report No. 155 (ROAME No. F02AA409). Baxter, J.M., Boyd, I.L., Cox, M., Donald, A.E., Malcolm, S.J., Miles, H., Miller, B., Moffat, C.F., Editors. (2011).Scotland's Marine Atlas: information for the national marine plan. Marine Scotland, Edinburgh. Available from: http://www.gov.scot/Topics/marine/science/atlas Bates, C. R., Moore, C. G., Malthus, T., Mair, J. M. and Karpouzli, E. (2004). Broad scale mapping of habitats in the Firth of Tay and Eden Estuary, Scotland. Scottish Natural Heritage Commissioned Report No. 007 (ROAME No. F01AA401D). BMT Cordah. 2004. Dornoch and Morrich More SAC Site condition monitoring. Scottish Natural Heritage. Unpublished report. Foster-Smith, R., Sotheran, I., and Foster-Smith, D. (2009). Sublittoral Biotope Mapping of the Moray Firth SAC Scottish Natural Heritage Commissioned Report No.338 JNCC 2016. Method for Creating version 2 of the UK Composite Map of Annex I Sandbanks slightly covered by seawater all of the time. http://jncc.defra.gov.uk/PDF/P20161206_UK_Sandbanks_v2_Method_1_0.pdf JNCC 2017. Marine Habitat Correlation Tables Version 2017.10 [as yet unpublished]. Background information and current published version of correlation table available from: http://jncc.defra.gov.uk/marinehabitatcorrelation Moore, C.G., Lyndon, A.R. and Mair, J.M. (2004). The establishment of site condition monitoring of marine sedimentary habitats in the Sound of Arisaig cSAC.Scottish Natural Heritage Commissioned Report No. 071 (ROAME No. F02AA409). Moore, C.G., Saunders, G., Mair, J.M. and Lyndon, A.R. (2006). The inauguration of site condition monitoring of marine features of Loch Maddy Special Area of Conservation. Scottish Natural Heritage Commissioned Report No. 152 (ROAME No. F02AA409). Moore, C.G. 2014. Upper Loch Fyne and Loch Goil pMPA and Wester Ross

pMPA - the identification of conservation management areas to support protected feature recovery.
Scottish Natural Heritage Commissioned Report No. 764.
Moore, C.G., Harries, D.B., Cook, R.L., Saunders, G.R., Atkinson, R.J.A. and Sanderson, W.G. 2015. 2014 site condition monitoring survey of marine sedimentary habitats in the Sound of Arisaig SAC. Scottish Natural Heritage Commissioned Report No. 807.
Moore, C.G., Harries, D.B., Lyndon, A.R., Mair, J.M., Tulbure, K.W., Saunders, G.R, Grieve, R. & Brash, J. 2016. 2015 site condition monitoring and site check surveys of marine sedimentary and reef habitats in the Loch nam Madadh SAC, Loch nam Madadh SSSI and Loch an Duin SSSI. Scottish Natural Heritage Commissioned Report No. 923.
Moore, C.G., Cook, R.L., Porter, J.S., Sanderson, W.G., Want, A., Ware, F.J., Howson, C., Kamphausen, L. & Harries, D.B. 2017. 2015 site condition monitoring of marine sedimentary and reef habitats in Loch Laxford SAC. Scottish Natural Heritage Commissioned Report No. 943.
Marine Scotland 2015. Scotland's National Marine Plan. http://www.gov.scot/Resource/0047/00475466.pdf
Marine Scotland. 2016. MPA Management - fisheries management - details of orders in place http://www.gov.scot/Topics/marine/marine-environment/mpanetwork/MPAMGT/protectedareasmgt
Marine Scotland. 2017a. Wild seaweed harvesting consultation. https://consult.gov.scot/marine-scotland/wild-seaweed-harvesting/
Scottish Natural Heritage. 2013. Data confidence assessment - Fetlar to Haroldswick MPA. Available from: https://www.nature.scot/sites/default/files/2017-11/Marine Protected Area - Data confidence assessment - Fetlar to Haroldswick possible MPA.pdf
Scottish Natural Heritage. 2013. Assessment against the MPA selection guidelines - Fetlar to Haroldswick MPA. https://www.nature.scot/sites/default/files/2017-11/Marine Protected Area - Detailed Assessment Against the MPA Selection Guidelines - Fetlar to Haroldswick.pdf
Scottish Natural Heritage. 2013. Management options Fetlar to Haroldswick MPA. Available from: https://www.nature.scot/sites/default/files/2017-11/Marine Protected Area - management options paper - Fetlar to Haroldswick possible MPA.pdf
Scottish Natural Heritage. 2013. Data confidence assessment South Arran MPA. Available from: https://www.nature.scot/sites/default/files/2017-11/Marine Protected Area - Data confidence assessment - South Arran possible MPA.pdf
Scottish Natural Heritage. 2013. Assessment against the MPA selection guidelines - South Arran MPA. Available from https://www.nature.scot/sites/default/files/2017-11/Marine Protected Area - Detailed Assessment Against the MPA Selection Guidelines - South Arran.pdf
Scottish Natural Heritage. 2013. Management options South Arran MPA. Available from:https://www.nature.scot/sites/default/files/2017-11/Marine Protected Area - management options paper - South Arran possible MPA.pdf
Scottish Natural Heritage. 2013. Data confidence assessment Wester Ross MPA. Available from: https://www.nature.scot/sites/default/files/2017-11/Marine Protected Area - Data confidence assessment - North-west sea lochs and Summer Isles possible MPA.pdf
Scottish Natural Heritage. 2013. Assessment against the MPA selection guidelines - Wester Ross MPA. Available from:https://www.nature.scot/sites/default/files/2017-11/Marine Protected

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Area - Detailed Assessment Against the MPA Selection Guidelines - North-west sea lochs and Summer Isles_0.pdf
Scottish Natural Heritage. 2013. Management options Wester Ross MPA Available from: https://www.nature.scot/sites/default/files/2017-11/Marine Protected Area - management options paper - North-west sea lochs and Summer Isles possible MPA.pdf
Scottish Natural Heritage. 2013. Data confidence assessment Wyre and Rousay Sounds MPA. Available from: https://www.nature.scot/sites/default/files/2017-11/Marine Protected Area - Data confidence assessment - Wyre and Rousay Sounds MPA.pdf
Scottish Natural Heritage. 2013. Management options Wyre and Rousay Sounds MPA. Available from: https://www.nature.scot/sites/default/files/2017-11/Marine Protected Area - management options paper - Wyre and Rousay Sounds possible MPA.pdf
Scottish Natural Heritage. 2013. Assessment against the MPA selection guidelines - Wyre and Rousay Sounds MPA. Available from: https://www.nature.scot/sites/default/files/2017-11/Marine Protected Area - Detailed Assessment Against the MPA Selection Guidelines - Wyre and Rousay Sounds.pdf
Watson, D. I., Coey, S., Wise, D., Thomson, M., Corner, R., Griffiths, C. and Cairns, Z. 2009. Site condition monitoring of marine features within the Sanday SAC and East Sanday Coast SSSI. Scottish Natural Heritage Commissioned Report No. Unpublished
Marine Scotland Consultation Webpage for Priority Marine Feature Consultation https://consult.gov.scot/marine-scotland/priority-marine-features

4. Range

4.1 Surface area (in km²)	15879	
4.2 Short-term trend Period		
4.3 Short-term trend Direction		
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) 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			
5.2 Surface area (in km²)	a) Minimum 1431	b) Maximum 1431	c) Best single value 1431
5.3 Type of estimate			

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5.4 Surface area Method used			
5.5 Short-term trend Period			
5.6 Short-term trend Direction			
5.7 Short-term trend Magnitude	a) Minimum	b) Maximum	c) Confidence interval
5.8 Short-term trend Method used			
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	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	939.18805	Maximum	939.18805
	b) Area in not-good condition (km²)	Minimum	491.34212	Maximum	491.34212
	c) Area where condition is not known (km²)	Minimum	0	Maximum	0
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	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
Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species (G01)	H
Marine fish and shellfish harvesting (professional, recreational) activities causing physical loss and disturbance of seafloor habitats (G03)	H

Marine aquaculture generating marine pollution (G16)	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
Extraction of oil and gas, including infrastructure (C03)	M
Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging) (E03)	M
Other invasive alien species (other then species of Union concern) (I02)	M
Transmission of electricity and communications (cables) (D06)	M
Wind, wave and tidal power, including infrastructure (D01)	M

Threat	Ranking
Marine fish and shellfish harvesting (professional, recreational) causing reduction of species/prey populations and disturbance of species (G01)	M
Marine fish and shellfish harvesting (professional, recreational) activities causing physical loss and disturbance of seafloor habitats (G03)	M
Marine aquaculture generating marine pollution (G16)	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
Transmission of electricity and communications (cables) (D06)	M
Wind, wave and tidal power, including infrastructure (D01)	M
Temperature changes (e.g. rise of temperature & extremes) due to climate change (N01)	M
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		Medium-term results (within the next two reporting periods, 2019-2030)

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8.5 List of main conservation measures

Management of professional/commercial fishing (including shellfish and seaweed harvesting) (CG01)
Reduce/eliminate marine pollution from marine aquaculture (CG08)
Adapt/manage renewable energy installation, facilities and operation (CC03)
Adapt/manage exploitation of energy resources (CC02)
Adapt/manage fossil energy installation, facilities and operation (CC05)
Reduce impact of transport operation and infrastructure (CE01)
Manage changes in hydrological and coastal systems and regimes for construction and development (CF10)
Other measures to reduce impacts from marine aquaculture infrastructures and operation (CG09)
Manage/reduce/eliminate point pollution to surface or ground waters from resource exploitation and energy production (CC08)

8.6 Additional information

Conservation measures operating now and into the future
For SACs conservation objectives, information on pressures and threats, and details of the habitats and species are contained within the Regulation 33 packages. For Nature Conservation MPAs site Conservation Objectives are provided in the Designation Orders from 2014 and threats, pressures and associated management measures have been identified in Management Options Papers published in 2013.
For SACs licensable activities e.g. aquaculture, renewable developments, oil and gas exploration and development, coastal developments, activitie associated with shipping/vessels e.g. dredging, anchorage, moorings military activities are subject to Habitiats Regulations Appraisal in Scotland which considers whether a particular plan or project (activities) will cause a likely significant effect on the habitat and result in an adverse effect on site integrity. If the tests of the HRA are not met then the development normally will not be allowed to continue unless suitable mitigation can be undertaken. For Nature Conservation MPAs a Section 83 assessment is undertaken of the licensable activities, which requires the public authority to assess whether there is a significant risk of the activity hindering the achievement of the conservation objectives of the Nature Conservation MPA.
Fisheries orders have been put in place for the following site as of 2016 which protect the subtidal sandbanks of the sites (and other features where appropriate) from fishing methods to which they are sensitive (mainly mobile fishing gear e.g. dredging): Luce Bay and Sands SAC, Sanday SAC, Fetlar to Haroldswich (some measures in place via Sheltand Shellfish Management Organisation but additional measures being considered), South Arra MPA.
Outside of MPAs there is some protected afforded to subtidal sandbanks through the East Coast fishing closure for sandeels.
Outside of MPAs impacts are considered on Priority Marine Features (PMFs) (https://www.snh.scot/professional-advice/safeguarding-protected-areas-and-species/priority-marine-features-scotlands-seas) , of which there are some (e.g. maerl beds, seagrass beds, shallow tide swept communities, kelp and seaweed communities on sublittoral sediment, Maerl or coarse shell gravel with burrowing sea cucumbers, Shallow tide-swept coarse sands with burrowing bivalves) that include biotopes that could be considered as Annex I subtidal sandbank habitat, and they are considered through Environmental Impact Assessments. Policy GEN 9 Natural Heritage in Scotland's National Marine Plan (Marine Scotland 2015) requires that development and use of the marine environment must not result in a significant impact on the national status of

PMFs, including these habitats. Regional Marine Management Plans for some regions (Shetland, Clyde) have been developed which seek to identify the location of sensitive PMFs including some associated with subtidal sandbanks and propose regional marine management policies to limit impacts of activities on these features and site development in more appropriate places.
Conservation measures which will start to operate during the next reporting period.
Fisheries management measures for gear that the habitat is sensitive to will be consulted on in 2018 with an aim to implement these in 2019. These are the remaining SACs and NC MPAs that don't already have adequate management in place and thus this will complete the fisheries management measures required for this habitat within MPAs in Scotland: Dornoch Firth and Morrich More SAC, Firth of Tay and Eden Estuary SAC, Loch nam Madadh SAC, Moray Firth SAC, Solway Firth SAC, Sound of Arisaig SAC, Sound of Barra SAC, Clyde Sea Sill MPA, Fetlar to Haroldswick MPA, Small Isles MPA.
Currently underway (as of July 2018) is a consultation lead by Marine Scotland to consider where there is a need to consider additional management for bottom contacting mobile fishing gears to ensure there is no significant impact on the national status of the most sensitive habitat PMFs within the 6 nautical mile (NM) limit. This specifically deals with the location of these sensitive habitats outside of Marine Protected Areas including SACs. See https://consult.gov.scot/marine-scotland/priority-marine-features/
Some of the feature being considered are found within LSIB e.g. maerl beds, seagrass beds, maerl or coarse shell gravel with burrowing sea cucumbers, blue mussel beds. Therefore if measures go ahead to protect these features outside of the current MPAs in Scotland then this could offer additional protected to some locations within other LSIB outside the MPAs.
Regional Marine Management Plans will continue to be developed for other regions with Orkney and the Outer Hebrides being proposed for during the next reporting period. As outlined above these will seek to identify the location of sensitive PMFs including some associated with subtidal sandbanks, and propose regional marine management policies to limit impacts of activities on these features and site development in more appropriate places.

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

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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	1349
	b) Maximum	1349
	c) Best single value	1349
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	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

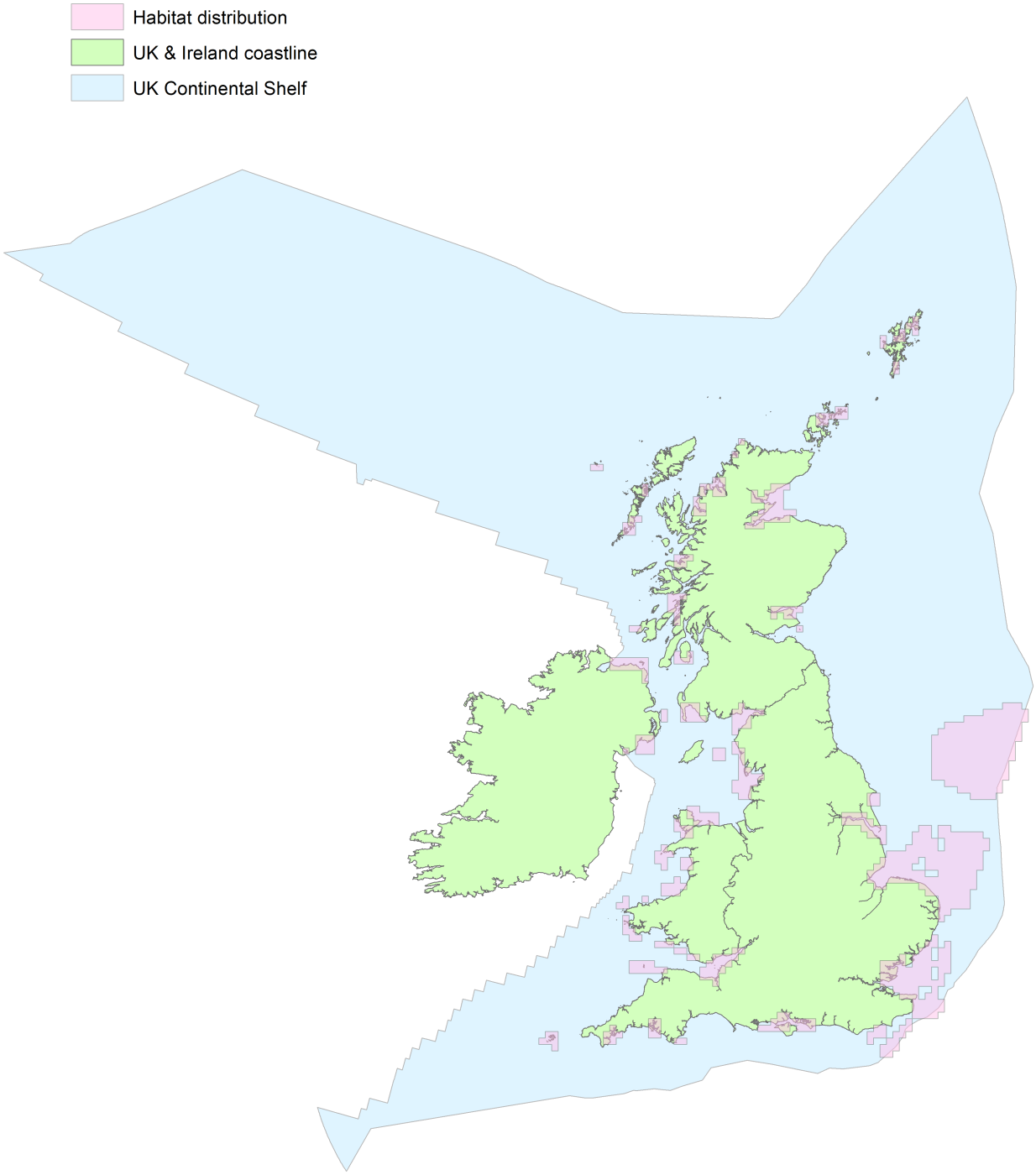

Figure 1: UK distribution map for H1110 - Sandbanks which are slightly covered by sea water all the time.

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

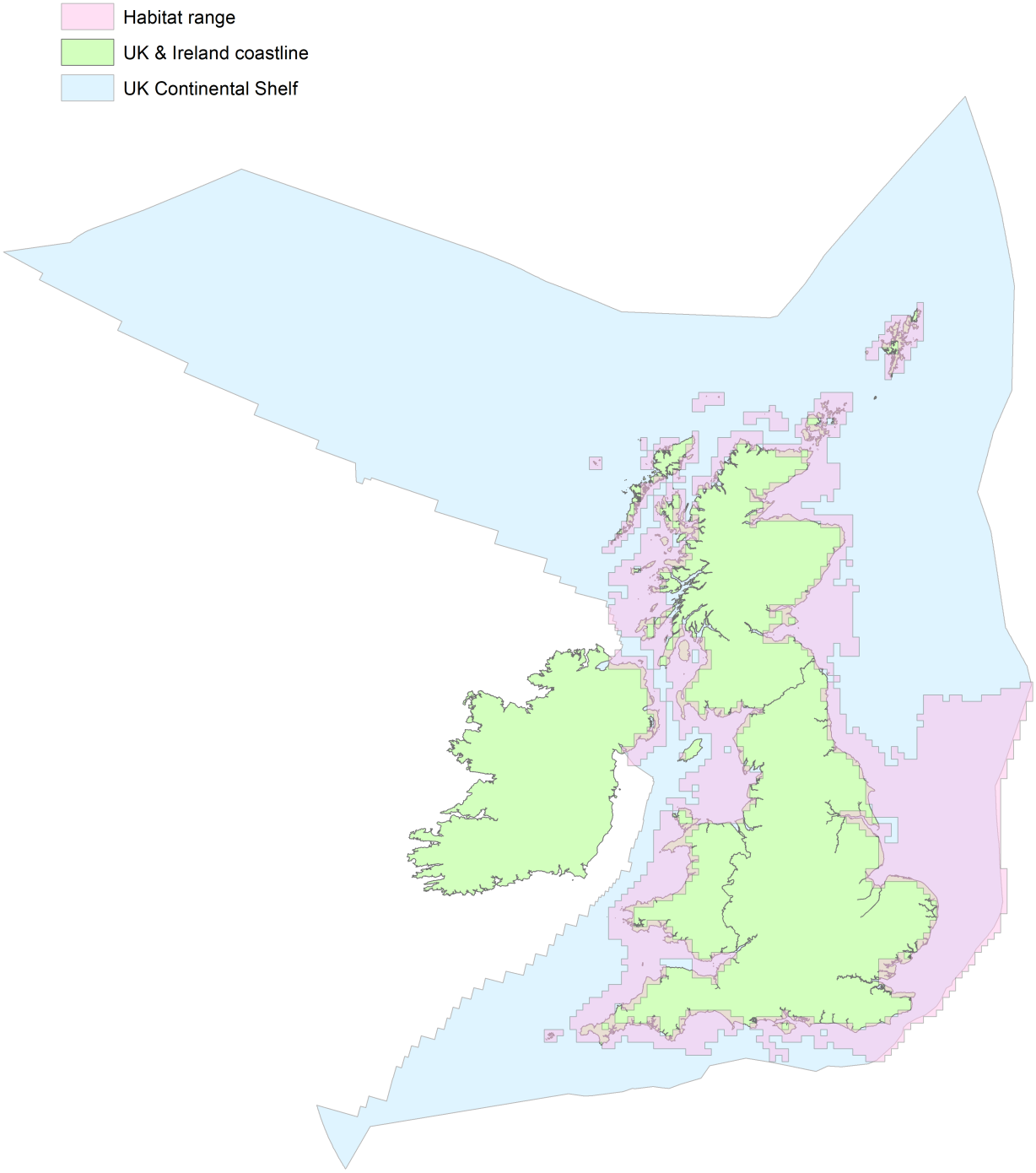

Figure 2: UK range map for H1110 - Sandbanks which are slightly covered by sea water all the time.

Range was calculated by JNCC using mapped surface area of the habitat in addition to the area of sloping sandy sediment habitat down to 60m and connected to a sandbank in less than 20m of water. The 60m limit is equivalent to the deepest known sandbank contour (found at Dogger Bank SAC). Mapped data of the habitat has been created by combining existing data (i.e. sandbanks already mapped within SACs) with an analysis of bathymetric depth, slope and aspect and sediment data across UK waters' and is based on current best available evidence (JNCC, 2018a).

Explanatory Notes

Habitat code: 1110 Region code: MATL

Field label	Note
6.1 Condition of habitat	(a) Area in good condition - to calculate this the area of subtidal sandbanks in SACs in favourable-maintained, favourable-recovered, favourable- unclassified were added together (these SACs were Dornoch Firth & Morrich More, Firth of Tay and Eden, Loch nam Madadh, Moray Firth, Sanday, Solway Firth and Sound of Arisaig). There are also areas of relevant habitats in the NC MPAs (Fetlar to Haroldswick, South Arrran, Wester Ross, Wyre & Rousay) that had a 'conserve' conservation objective and favourable condition and these were also included where the habitat polygons had been incorporated in to the JNCC habitat layer.Therefore the area in good condition = 919.37822 (area of subtidal sandbanks in SACs in good condition) + 19.809839km2 (area of subtidal sandbank equivalent habitat in NCMPAs in good condition). Further details of the sites included are in SNH internal document A2669568). (b) Area in not-good condition - none of the subtidal sandbank SACs that have been assessed through SCM were considered to be in not-good condition, however two have not been assessed through site condition monitoring (Sound of Barra SCI and Luce Bay and Sands SAC). These and areas of subtidal sandbanks outside of the SACs and NCMPAs are in the following marine regions, where in Scotland's Marine Atlas (Baxter et al. 2011) shallow and shelf subtidal sediments have been assessed as follows: North Scotland Coast (deteriorating, few concerns), Minches and Malin Sea (stable, many concerns), Solway Firth and North Channel (stable, many concerns). Therefore on the basis of these assessments the remaining two SACs, and areas outside of the SACs would be considered to be in not-good condition (see SNH internal document A2631873). Additionally some of the NC MPAs with features which can be considered subtidal sandbanks have a restore conservation objective and are considered to be in not-good condition also. Therefore the total area in not good condition = 1403.530179 (total subtidal sandbanks in Scottish territoral waters - area in good condition 939.188059 = 491.34212km2.
6.4 Short term trend of habitat area in good condition; Direction	Stable has been noted as the short term trend for the subtidal sandbanks habitat as a whole. The majority of the habitat is believed to be in good condition and this information comes from MPAs (SACs and NCMPAs). There is no indication that there has been any notable deterioration in MPAs over the period 2007-2018 where repeat surveys are available, however these data are limited. The assessments from Scotland's Marine Atlas indicate that the majority of shallow and shelf subtidal sediments are stable (albeit with many concerns regarding pressures). Therefore this assessment of stable is based mainly on extrapolation with very limited data. This assessment of stable is for the entire subtidal sandbanks resource, most of which is made up of the subtypes of gravelly and clean sands and muddy sands. However it should be noted that for the biogenic subtypes of maerl and seagrass beds the short-term trend would be uncertain. This is because of known declines in the condition and area of maerl beds and seagass beds in Scottish waters including within MPAs e.g. maerl beds in South Arran, and seagrass beds in the Sound of Barra. Therefore if it was possible to make and assessment for these biogenic components we would not say that their condition was stable, but in fact uncertain, due to some areas being in good condition but others declining.

6.5 Short term trend of habitat area in good condition; Method used	For the vast majority of SACs and NC MPAs which have been used to assess the habitat area in good condition, there is no indication that the habitat condition between 2007-2018 has been anything apart from stable. However, there has been a lack of repeated survey effort across these sites that would allow confirmation of this. However, both Loch nam Madadh and Sound of Arisaig had their assessments singed off in 2005 and then another assessment which were both signed off in 2016. Whilst the earlier data is before the trend period requested (therefore a longer period has been considered) there has not been a change in condition in these two sites (both still favourably maintained). Outside of the sites, the main trend in the relevant regions is stable according to Baxter et al. (2011) although there are 'many concerns' noted in two out of the three regions.
7.1 Characterisation of pressures/ threats	Continued from above. E03 - Shipping lanes, ferry lanes and anchorage infrastructure (e.g. canalisation, dredging) was assessed in the 2013 reporting round as a medium pressure, and it is still occurring on this habitat within Scottish waters. Therefore it has been included again in this reporting round as a pressure but it is considered that other threats are more notable as the scale of the impact spatially is relatively low in comparison to the potential extent of other pressures e.g. fishing, climate change. N01, N05 - Climate change pressures - several of the components of this habitat e.g. seagrass beds, maerl beds, are assessed as having medium-high sensitivity to climate change pressures i.e. sea temperature rise, ocean acidification and increased freshwater runoff /increased sedimentation and increased storm/wave impact, based on literature and existing sensitivity assessments. They are likely to be exposed to these pressures in the future under projected scenarios and therefore have medium vulnerability to climate change pressures within MPAs. This is detailed in a report due to be published by SNH - Strong et al. (unpublished). Therefore it has been included as a future threat. I02: Other invasive alien species (other than species of Union concern) - there are records of non-native invasive species within protected sites and throughout the wider seas in Scotland, as outlined in https://www.nature.scot/professional-advice/land-and-sea-management/managing-coasts-and-seas/marine-non-native-species. These may not pose more than a low pressure at present but they could be viewed as a medium threat to subtidal sandbanks and their sub-types. Moore et al. (2017, CR943) discusses the presence and continued spread of the invasive alga Dasysiphonia japonica on the maerl beds in Loch Laxford SAC but the species is not assessed as currently representing a threat to the condition of the designated features. Sargassum muticum is also widespread on the maerl beds in Loch Sween MPA (although this hasn't been included as a contributing site to this Article 17 report, it provides an example of what can happen to maerl beds). D06: Transmission of electricity and communications (cables) - the laying on cables poses a current pressure and threat to particularly sensitive sub-types of subtidal sandbanks, i.e. maerl beds and seagrass beds. There is a growing level of relevant casework (most recently including SSE work in Wyre and Rousay Sounds and Wester Ross MPAs) that are directly relevant to maerl seagrass beds as well as Kelp and seaweed communities on sublittoral sediments. In the 2013 reporting round discharges associated with industry, agriculture and residential activities/discharge (F20, F21, A28) and military activities (H02) were all rated low in terms of pressures and threats. This status has not changed and therefore as low pressures and threats are not included for the 2019 reporting round, these activities have not been included.

7.1 Characterisation of pressures/ threats	G03 - Fishing - Subtidal sandbanks in both protected sites and the wider marine environment have experienced this pressure during the reporting period and data collected during this period has indicated that certain biotopes comprising this Annex I habitat, i.e. maerl beds, maerl and coarse shell gravel have experienced declines in areas such as the South Arran MPA and Wester Ross MPA and loss in others e.g. Upper Loch Fyne and Loch Goil MPA (Moore 2014). The Regulation 33 documents for the SACs (although these are due to be updated) and Management Options Papers produced for the NC MPAs also outline the sensitivity and potential vulnerability of the protected features to mobile fishing gear (see section 3.2). Whilst fisheries management has now been in place (as of 2016) or is planned (2018) for the protected sites (SACs and NC MPAs), Annex I subtidal sandbanks outside of protected sites or existing fisheries closures are not protected from this pressure (see Marine Scotland (2016, 2017a)). There is a review ongoing to look at the potential to manage fishing in relation to certain components of subtidal sandbanks outside of protected sites in Scotland. Therefore is has been assigned as a high pressure and medium threat. G04 - Sea weed harvesting is currently at a relatively small scale and focussed on the west coast of Scotland, particularly in the Outer Hebrides. However, it is a growing industry in Scotland and companies wish to expand. Some of the biotopes which are included under subtidal sandbanks are targets for this activity e.g. harvesting of kelp on sandy, mixed sediments. It is not currently regulated although Marine Scotland are considering the best ways to manage the industry (see Marine Scotland 2017a for details of consultation). Therefore the current pressure is assessed as medium and the threat as medium. G16 - Fish and shellfish harvesting - Subtidal sandbanks in both protected sites and the wider marine environment have experienced this pressure during the reporting period due to the presence of aquaculture developments within and outside sites, and will continue to do so in the future. The pressure on this habitat may increase in the future due to commitments from Scottish Government and the industry to increase sustainable aquaculture production (See Marine Scotland, 2017b). The Regulation 33 documents for the SACs (although these are due to be updated) and Management Options Papers produced for the NC MPAs also outline the sensitivity and potential vulnerability of the protected features to aquaculture (see section 3.2).However this industry is regulated by SEPA, Marine Scotland and local authorities and therefore the rank has been assessed as medium for both the pressure and the threat. D01 - Renewables - currently the subtidal sandbanks in protected sites are not at risk from this activity, although they are experiencing pressure from wind farm development in the wider marine environment (east coast of Scotland). Further renewable development is likely around the coast of Scotland, and potentially the west coast of Scotland too and therefore is likely to interact with subtidal sandbank habitat. See http://www.gov.scot.Topics/marine/Licensinf/marine/scoping for details of current offshore wind, wave and tidal developments around Scotland and National Marine Plan interactive for the location of these developments and draft plan options for potential future development areas - http://www.marinescotland.atkinsgeospatial.com/nmpi/ F08: Modification of coastline, estuary and coastal conditions for development, use and protection of residential, commercial, industrial and recreational infrastructure and areas - the equivalent to this was previously assessed in 2013 as being a medium pressure to this habitat. It continues to be a pressure this habitat experiences although managed within MPAs through the Habitats Regulations Appraisal process or the Section 83 assessment. However outside of sites with increasing populations and coastal development this is still a pressure and is likely to continue to be in the future. C03 - Extraction of oil and gas, including infrastructure Oil and gas exploration and extraction - this was ranked as a medium pressure in the 2013 reporting and is still occurring on this habitat within Scottish waters (see http://www.marinescotland.atkinsgeospatial.com/nmpi/). Therefore it has been included again under this reporting round as a pressure but it is considered that other threats are more notable as the scale of the impact spatially is relatively low in

	comparison to the potential extent of other pressures e.g. fishing, climate change.
8.5 List of main conservation measures	CG09 has been included in terms of addressing other issues arising from aquaculture e.g. use of wrasse for sea lice removal, urchins, invasive non-native species.
9.1 Future prospects of parameters	We believe that the range and area of subtidal sandbanks habitat overall should remain stable in the future over the next 12 year period based on majority of this habitat being clean and gravelly sands or muddy sands, the monitoring data within sites and the conservation measures that are currently in place or planned, both within MPAs and outside of protected areas. We propose that there is the potential for a positive trend in structure and function of the habitat, albeit slight/moderate, because of the management measures now in place and those that are proposed both inside and outside protected areas. However, it should be recognised that there are uncertainties in the positive assessment because the new management measures are being targeted on the basis of the existing evidence-base only and it is unclear whether there may be future iterations needed similar to the current Priority Marine Feature (PMF) review process which looks to put fisheries management measures in place outside of MPAs. It is also clear from recent work (e.g. in Loch Carron on flameshell beds) that human activities will continue to modify examples of our most sensitive PMFs in areas where no survey records currently exist. Therefore there maybe records of this habitat that we are currently unaware of that are being impacted by human activities. However, as Scotland only supports a modest proportion of the wider UK Annex I 'sandbanks' resource and we are now taking very positive steps in relation to the most sensitive components and the key pressure / threat, this has been recognised in the future prospect trends of stable area and positive structure and function. However, if the biogenic subtypes of this habitat, maerl beds and seagrass beds the future prospects are less clear if these are considered separately from the overall subtidal sandbanks habitat within which they sit. It is likely that the range would remain stable, but it is less clear what will happen to area and structure and function. Under a changing climate we may see losses in these attributes for maerl beds, but seagrass beds may benefit from increasing CO2 levels. This also needs to be considered alongside fishing management measures that are in place or will be in the near future which should offer protection and allow recovery of features. Therefore the future prospects for area and strucure and function of these subtypes is uncertain.
11.5 Short term trend of habitat area in good condition within the network; Method used	For the SACs which have been used to assess the habitat area in good condition, there is no indication that the habitat condition between 2007-2018 has been anything apart from stable. However, there has been a lack of repeated survey effort across these sites that would allow confirmation of this. We do also know that there have been declines in seagrass beds in the Sound of Barra SCI and the status of maerl beds here is still under review. However, both Loch nam Madadh and Sound of Arisaig had their assessments signed off in 2005 and then another assessment which were both signed off in 2016. Whilst the earlier data is before the trend period requested (therefore a longer period has been considered) there has not been a change in condition in these two sites (both still favourably maintained).