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:

H1320 - *Spartina* swards (*Spartinion maritimae*)

ENGLAND

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 (England information only)**
1.2 Habitat code	**1320 - Spartina swards (Spartinion maritimae)**

2. Maps

2.1 Year or period	2013-
2.3 Distribution map	Yes
2.3 Distribution map Method used	Based mainly on extrapolation from a limited amount of data
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	Cooper, M. A. 1993. Population biology of Spartina maritima and Spartina anglica monocultures in estuarine saltmarshes. Ph.D thesis, University of East Anglia. http://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.336180 GARBUTT A., BURDEN A, MASKELL L., SMART S., HUGHES S., NORRIS D., COPPER M. 2015. The status of Habitats Directive Annex I saltmarsh habitats, transition zones and Spartina species in England. Natural England Commissioned Report, NECR185 . Harkin, C. 2016. Ecological interactions of an invading insect: the planthopper Prokelisia marginata. Doctoral thesis (PhD), University of Sussex. http://sro.sussex.ac.uk/65533/ Stewart, A. 2015. Prokelisia INNS factsheet http://www.nonnativespecies.org/factsheet/factsheet.cfm?speciesId=3821 Natural England. 2015. Improvement Programme for England's Natura 2000 sites (IPENS): Planning for the future Programme Report - a summary of the programme findings. (NE601). Natural England. http://publications.naturalengland.org.uk/publication/5757712073752576?category=4878851540779008 Jones L, Garbutt A and Angus S. 2013. Impacts of climate change on coastal habitats, MCCIP Science Review, 4 http://www.mccip.org.uk/media/13315/2013arc_backingpapers_18_chab.pdf JNCC. 2013. Third report by the United Kingdom under article 17 on the implementation of the directive from January 2007 to December 2012. H1320 Spartina swards (Spartinion maritimae)

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

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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	1999-2012		
5.2 Surface area (in km²)	a) Minimum	b) Maximum	c) Best single value 0.77
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	Complete survey or a statistically robust estimate		
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 0	Maximum 0	
	b) Area in not-good condition (km²)	Minimum 0.77	Maximum 0.77	
	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	Decreasing (-)			

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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
Other invasive alien species (other then species of Union concern) (I02)	H
Mixed source air pollution, air-borne pollutants (J03)	M
Sea-level and wave exposure changes due to climate change (N04)	H
Intrusive and destructive research and monitoring activities (H07)	M

Threat	Ranking
Intensive grazing or overgrazing by livestock (A09)	M
Other invasive alien species (other then species of Union concern) (I02)	H
Mixed source air pollution, air-borne pollutants (J03)	M
Sea-level and wave exposure changes due to climate change (N04)	H
Intrusive and destructive research and monitoring activities (H07)	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	Restore the habitat of the species (related to 'Habitat for the species')	
8.3 Location of the measures taken	Only inside Natura 2000	
8.4 Response to the measures	Long-term results (after 2030)	
8.5 List of main conservation measures		

Manage changes in hydrological and coastal systems and regimes for construction and development (CF10)
Manage/reduce/eliminate diffuse pollution to surface or ground waters from resource exploitation and energy production (CC09)
Implement climate change adaptation measures (CN02)

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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 1 b) Maximum 2.48 c) Best single value 1.74
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	Decreasing (-)
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	Maximum area used is taken from JNCC SAC data, derived from Standard Data Forms. This is likely to be an overestimate.

12. Complementary information

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12.1 Justification of % thresholds for trends

12.2 Other relevant information

Distribution Map

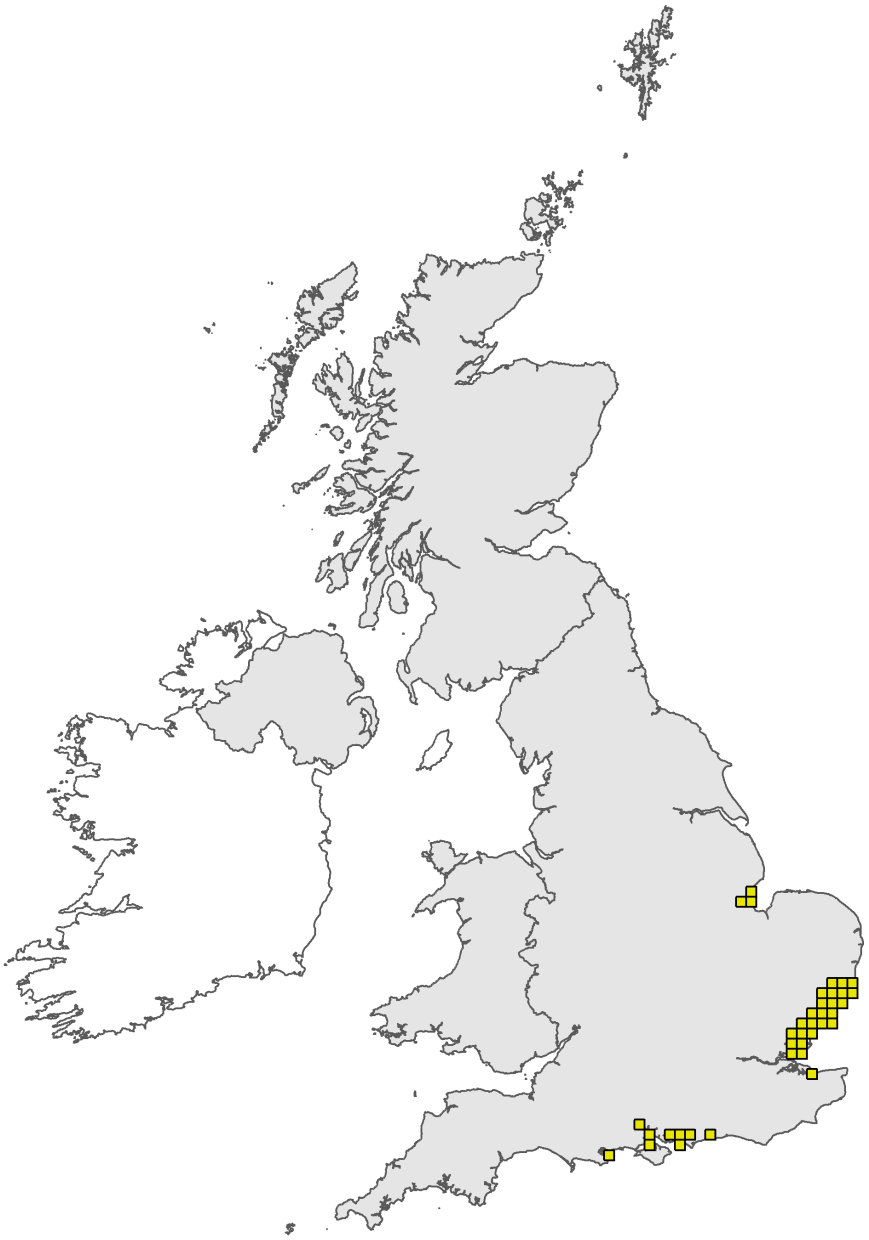

Figure 1: UK distribution map for H1320 - *Spartina* swards (*Spartinion maritimae*). Coastline boundary derived from the Oil and Gas Authority's OGA and Lloyd's Register SNS Regional Geological Maps (Open Source). Open Government Licence v3 (OGL). Contains data © 2017 Oil and Gas Authority.

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 H1320 - *Spartina* swards (*Spartinion maritimae*). 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: 1320

Field label	Note
2.3 Distribution map; Method used	Map derived from data provided by JNCC Terrestrial Habitat 10-km Square Distribution Map Data and Sources. No new locations have been recorded since 2013.

Habitat code: 1320 Region code: ATL

Field label	Note
3.2 Sources of information	Key sources of information on Annex I habitats in relation to site issues, pressures and threats and approaches to management measures include the material collated for the IPENS programme. Key published SIPS, evidence projects and Theme Plans are referenced which provide a range of information relevant to this Annex I habitat and other habitats and species within Natura 2000 sites. Only new sources are included - for previous reports see the 2nd and 3rd Article 17 reports and audit trails.
4.1 Surface area	In 2012, all known populations previously reported in 1990 were re-visted. Of these, only 77% were re-found (ref Garbutt et al 2015). This was thought to reflect actual loss. The estimated area in 2013 was 1 km2, this has been reduced to 0.77km2 to reflect this decline in area, however this is a maximum estimate as the Spartina maritima habitat does not form extensive stands
5.6 Short term trend; Direction	The rates of short-term decline in extent are not known but the Spartina maritima community has experienced long-term high rates of loss. There was a 23% reduction in number of 1km squares between 1990-2012, this has been extrapolated to just over 1% decline per year although confidence is low due to the nature of the available data, and this is a change from the previous reporting which suggested<1% per
7.1 Characterisation of pressures/ threats	One unknown issue is whether the non-native species Prokelisia marginata (INNS factsheet 2015) could affect both the native Spartina maritima as well as the hybrid Spartina anglica. The Ph.D by Harkin (2016) shows the current range of that invertebrate (derived from unpublished data) coinciding with that of Spartina maritima and other rare Spartina species. Effects on all species of Spartina could be detrimental as there is no means of controlling the invasive invertebrate, however These experimental results suggest that continued Prokelisia population growth and spread may pose a very real threat to the ongoing survival of S. maritima across its remaining English distribution
7.2 Sources of information	Pressures and threats information is largely derived from a range of information produced by the IPENS programme, including SIPs, Theme Plans and the overall programme report which are available at http://publications.naturalengland.org.uk/category/4878851540779008 or other sources listed in the 'habitat sources' tab, or expert knowledge
11.4 Short term trend of habitat area in good condition within the network; Direction	Data from 2012 (Garbutt et al 2015) indicate that this habitat has been undergoing declines. Due to the small scale of the habitat it is not effectively covered by Common Standards Monitoring so it hasn't been used to determine short term trend of habitat in good condition