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:

H1150 - Coastal lagoons

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	**1150 - Coastal lagoons**

2. Maps

2.1 Year or period	1994-2018
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	England Abrehart, T.R., Forster, S.J., 2012. Ecological surveys of saline lagoons on the Benacre NNR and Suffolk Coast NNR February 2012. Natural England Report. Acornley, R. and Jonas, P. 2006. Chesil and the Fleet SAC/SPA: Habitats Directive Assessment.: Environment Agency. Angus S., Cooper A., Doody P., Everard M., Garbutt A., Gilchrist P., Hansom J., Nicholls R., Pye K., Ravenscroft N., Rees S., Rhind P. and Whitehouse A., 2011, Broad Habitats, Chapter 11: Coastal Margins, In: The UK National Ecosystem Assessment Technical Report. UK National Ecosystem Assessment, UNEP-WCMC, Cambridge.Available online at: http://uknea.unep-wcmc.org/LinkClick.aspx?fileticket=dNI5e5W5I5Q%3D&tabid=82 Atkins. 2009. Natural England Survey and assessment of saline lagoons at Snettisham, Norfolk Atkins on behalf of Natural England. Bagwell, S. 2018. Fleet Lagoon Sediment Analysis Data [Excelfile]: Bournemouth University. Baldock, L. 2007. Biological survey of Zostera, Ruppia & Lamprothamnium in the Fleet Lagoon (SAC/SPA) 2007: Natural England. Baldock, L. 2011. Chesil and The Fleet SAC Tidal Rapids Monitoring. Report to Natural England. Baldock, L. 2014. The Fleet Lagoon SAC Survey of Macrophytes and Macroalgae (Unpublished report): Natural England. Baldock, L. and Bass, J. 2011. Chesil & the Fleet EMS: Survey of shingle springline communities.: Natural England. Bamber, R. and Robbins, R. 2010. Condition Monitoring of the Isle of Wight Coastal Saline Lagoons, 2010: Natural England. Bamber, R. N. and Barnes, R. S. K. 1995. Coastal Lagoons. http://jncc.defra.gov.uk/PDF/pubs_csuk_region05.pdf. Bamber, R. N. and Evans, N. J. 2006. Saline lagoon survey, Snettisham Lagoons, Norfolk, November 2006: Natural History Museum Consulting. Bamber, R. N., 1997, Assessment of saline lagoons within Special Areas of Conservation (SACs), English Nature Research Reports, 235, pages 1-178 Bamber, R. N., 2010, Coastal saline lagoons and the Water Framework Directive, Natural England Commissioned Reports, NERC039, pages 1-48, http://publications.naturalengland.org.uk/publication/44008

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4. Range

4.1 Surface area (in km²)	52
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 expert opinion with very limited data
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) 52
	b) Operator
	c) Unknown No
	d) Method The favourable reference range is likely to remain the same as the actual range given the physiographic nature of the feature. Therefore, the current range of coastal lagoons is, considered to be the favourable reference range. The known range has increased due to improved knowledge and this has led a change in the Favourable reference range.
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	4.1-The range was considered equivalent to the surface area. Coastal lagoons are physiographic features and so their range is determined primarily by geomorphological and hydrographic processes occurring over long time-scales and is not related to biological communities or processes supported by communities.
	4.3-The occurrence of this habitat is defined by physiographic processes over long time-scales. While the surface area of some of these individual habitats may have declined due to localised pressures, the geographic spread and distribution of features is not thought to have been reduced.
	4.11-As a result of improved mapping of the habitat, the surface area of range in UK Coastal Lagoons is larger than the figure reported in 2013.
	For further details on the approach taken in this section please refer to the JNCC website for the 2019 UK Approach Document.

5. Area covered by habitat

5.1 Year or period	1994-2018

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5.2 Surface area (in km²)	a) Minimum	b) Maximum	c) Best single value	52.43

5.3 Type of estimate	Best estimate
5.4 Surface area Method used	Based mainly on extrapolation from a limited amount of data
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	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) 52
	b) Operator
	c) Unknown No
	d) Method Area is neither restricted, nor notably fragmented. Further, since this parameter is determined by physical, rather than biological processes it is appropriate to use the current estimate as a baseline favourable reference area estimate. The known area has increased due to improved knowledge and this has led a change in the Favourable reference area.
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	5.1-The data sources used to produce this map ranged from 1994 to 2018. 5.4-The 2013 UK Article 17 area data for Annex I Coastal Lagoons was revised at a UK level by the JNCC following updates submitted by the UK Country Agencies. For further details see JNCC website (JNCC 2018a). 5.6-Expert judgement was used to determine the short-term trend direction at the UK-level. The short-term trend is stable. The largest proportion of this feature is in Scotland, where the trend is thought to be stable; Loch a Bhruga was lost via a coast protection scheme, although it is a small loss. There are reported losses in Wales, which are very small relative to the entire lagoon resource. The short-term trend is uncertain in England and stable in Northern Ireland. 5.14-As a result of improved mapping of the habitat, the surface area UK Coastal Lagoons is larger than the figure reported in 2013. For further details of methods see JNCC website for 2019 UK Approach Document.

6. Structure and functions

6.1 Condition of habitat	a) Area in good condition (km²)	Minimum 39.69588	Maximum 39.69588
	b) Area in not-good condition (km²)	Minimum 4.66309	Maximum 4.66309
	c) Area where condition is not known (km²)	Minimum 8.0572	Maximum 8.0572
6.2 Condition of habitat Method used	Based mainly on extrapolation from a limited amount of data		

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6.3 Short-term trend of habitat area in good condition Period	2006-2018
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	6.1- The area of habitat in 'good' (favourable) 'not good (unfavourable) and unknown condition was assessed in each of the four countries and the results were summed. 9% of the habitat is thought to be in unfavourable (not good) condition, 75% of the habitat is thought to be in favourable (good condition) and 15% of the habitat is in unknown condition. The structure and functions conservation status is, therefore, unfavourable-inadequate, it was also unfavourable-inadequate in 2013.
	6.4-The short-term trend of habitat in good condition was assessed by the four countries and the results were aggregated (see 2019 UK Approach Document). Scotland has the largest proportion of UK Coastal Lagoons and reported a stable short-term trend along with Northern Ireland. The short-term trend was also stable in 2013.
	For details on the approaches taken in this section see JNCC website for 2019 UK Approach Document and country-level reporting information.

7. Main pressures and threats

7.1 Characterisation of pressures/threats

Pressure	Ranking
Agricultural activities generating marine pollution (A28)	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
Modification of flooding regimes, flood protection for residential or recreational development (F28)	M
Other invasive alien species (other then species of Union concern) (I02)	M
Mixed source marine water pollution (marine and coastal) (J02)	M
Modification of hydrological flow (K04)	M
Temperature changes (e.g. rise of temperature & extremes) due to climate change (N01)	M
Increases or changes in precipitation due to climate change (N03)	M
Sea-level and wave exposure changes due to climate change (N04)	H
Change of habitat location, size, and / or quality due to climate change (N05)	M

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Threat	Ranking
Agricultural activities generating marine pollution (A28)	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
Modification of flooding regimes, flood protection for residential or recreational development (F28)	M
Other invasive alien species (other then species of Union concern) (I02)	M
Modification of hydrological flow (K04)	M
Temperature changes (e.g. rise of temperature & extremes) due to climate change (N01)	H
Increases or changes in precipitation due to climate change (N03)	H
Sea-level and wave exposure changes due to climate change (N04)	H
Change of habitat location, size, and / or quality due to climate change (N05)	H
Change of species distribution (natural newcomers) due to climate change (N08)	M

7.2 Sources of information

7.3 Additional information

There were often more than ten pressures, threats (of high or medium importance), or conservation measures identified, and an aggregation method was used to identify the top ten of each. As a result the top ten lists for the habitat may not correspond with each other. For example, a pressure may be in the reported top ten list, but the corresponding conservation measure might not appear in the top ten list of conservation measures. This does not mean that the measure is not in place, but instead it is in the extended list of measures that did not make the top ten but are detailed in the additional information section.

For details on the approaches taken in this section please refer to the 2019 UK Approach Document and country-level reports.

The following pressures were also identified as medium importance, however, a maximum of ten could be reported: A16- Other soil management practices in agriculture, C15-Mining and extraction activities not referred to above, F22-Residential or recreational activities and structures generating marine macro- and micro- particulate pollution (e.g. plastic bags, Styrofoam), A20-Application of synthetic (mineral) fertilisers on agricultural land, , A09- Intensive grazing or overgrazing by livestock, F07- Sports, tourism and leisure activities, N06-Desynchronisation of biological / ecological processes due to climate change.

The following threats were identified as medium importance, however, a maximum of ten could be reported: A16- Other soil management practices in agriculture, C15-Mining and extraction activities not referred to above, D05-Development and operation of energy production plants (including bioenergy plants, fossil and nuclear energy plants), F22-Residential or recreational activities and structures generating marine macro- and micro- particulate pollution (e.g. plastic bags, Styrofoam), A20-Application of synthetic (mineral) fertilisers on agricultural land, A33-Modification of hydrological flow or

physical alteration of water bodies for agriculture (excluding development and operation of dams), A09-Intensive grazing or overgrazing by livestock, F07-Sports, tourism and leisure activities, J02-Mixed source marine water pollution (marine and coastal), N06-Desynchronisation of biological / ecological processes due to climate change.

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

Reduce/eliminate marine pollution from agricultural activities (CA13)

Manage drainage and irrigation operations and infrastructures (CB14)

Adapt/manage fossil energy installation, facilities and operation (CC05)

Reduce/eliminate marine pollution from industrial, commercial, residential and recreational areas and activities (CF07)

Reduce/eliminate marine contamination with litter (CF08)

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

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

Reduce impact of mixed source pollution (CJ01)

Reduce impact of multi-purpose hydrological changes (CJ02)

Implement climate change adaptation measures (CN02)

8.6 Additional information	There were often more than ten pressures, threats (of high or medium importance), or conservation measures identified, and an aggregation method was used to identify the top ten of each. As a result the top ten lists for the habitat may not correspond with each other. For example, a pressure may be in the reported top ten list, but the corresponding conservation measure might not appear in the top ten list of conservation measures. This does not mean that the measure is not in place, but instead it is in the extended list of measures that did not make the top ten but are detailed in the additional information section. The following conservation measures were also identified, however, a maximum of 10 could be listed: CF03-Reduce impact of outdoor sports, leisure and recreational activities, CH03- Reduce impact of other specific human actions, CA15- Manage drainage and irrigation operations and infrastructures in agriculture, CA08- Adapt soil management practices in agriculture, CA05- Adapt mowing, grazing and other equivalent agricultural activities.
	For methods see JNCC website for 2019 UK Approach document and country-level reporting information.

9. Future prospects

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9.1 Future prospects of parameters	a) Range	Good
	b) Area	Unknown
	c) Structure and functions	Unknown
9.2 Additional information	Future trends for each parameter were selected by the four countries and then aggregated to give a future trend for the UK (see 2019 UK Approach Document). Table 32 in the EU Guidelines was used to bring the future trend and conservation status of each parameter together to conclude on future prospects. 9.1a)The future trend of range is stable because the range of this habitat is not expected to change in the next 12 years. Future prospects are good because the future trend of range is stable and the conservation status of range is Favourable. Future prospects were also good in 2013. 9.1b) The future trend of area is unknown because lagoons are likely to be susceptible to climate change, but it is unclear what will happen as a consequence of this. This explains why Future prospects for this parameter have changed from good (2013) to unknown. 9.1c) The future trend of structure and functions is unknown, because lagoons are likely to be susceptible to climate change, but it is unclear what will happen as a consequence of this. Future prospects are, therefore, unknown and were also unknown in 2013. For further details on the approaches used in this section please refer to the JNCC website for 2019 UK Approach Document and country-level reporting information.	

10. Conclusions

10.1. Range	Favourable (FV)
10.2. Area	Favourable (FV)
10.3. Specific structure and functions (incl. typical species)	Unfavourable - Inadequate (U1)
10.4. Future prospects	Unknown (XX)
10.5 Overall assessment of Conservation Status	Unfavourable - Inadequate (U1)
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 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	10.1- 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. 10.2-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. 10.3-Conclusion on Structure and functions reached because habitat condition data indicates that between c.5-25% of the habitat is in unfavourable condition. 9% of the habitat is thought to be in unfavourable (not good) condition, 75% of

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the habitat is thought to be in good condition and 15% of the habitat is in unknown condition.

10.4-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. The conclusion for Future Prospects was Favourable in 2013, however, this has changed to Unknown because lagoons are likely to be susceptible to climate change, but it is unclear what will happen as a consequence of this. See Scotland's country-level reporting information for more details.

10.5-Overall assessment of Conservation Status is Unfavourable-inadequate because two or more of the conclusions are Unfavourable-inadequate.

10.6-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.

For methods see JNCC website for the 2019 UK Approach Document and country-level reporting 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	 22.58968
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	11.3- The estuaries surface area map was intersected with all Natura 2000 sites that contain qualifying marine habitats or species (JNCC, 2018b). The cut-off used for SAC designations was Tranche 56 in November 2017. For further details on the approaches taken in this section please refer to the 2019 UK Approach Document and country-level reports on the JNCC website.	

12. Complementary information

12.1 Justification of % thresholds for trends	
12.2 Other relevant information	

Distribution Map

Habitat distribution

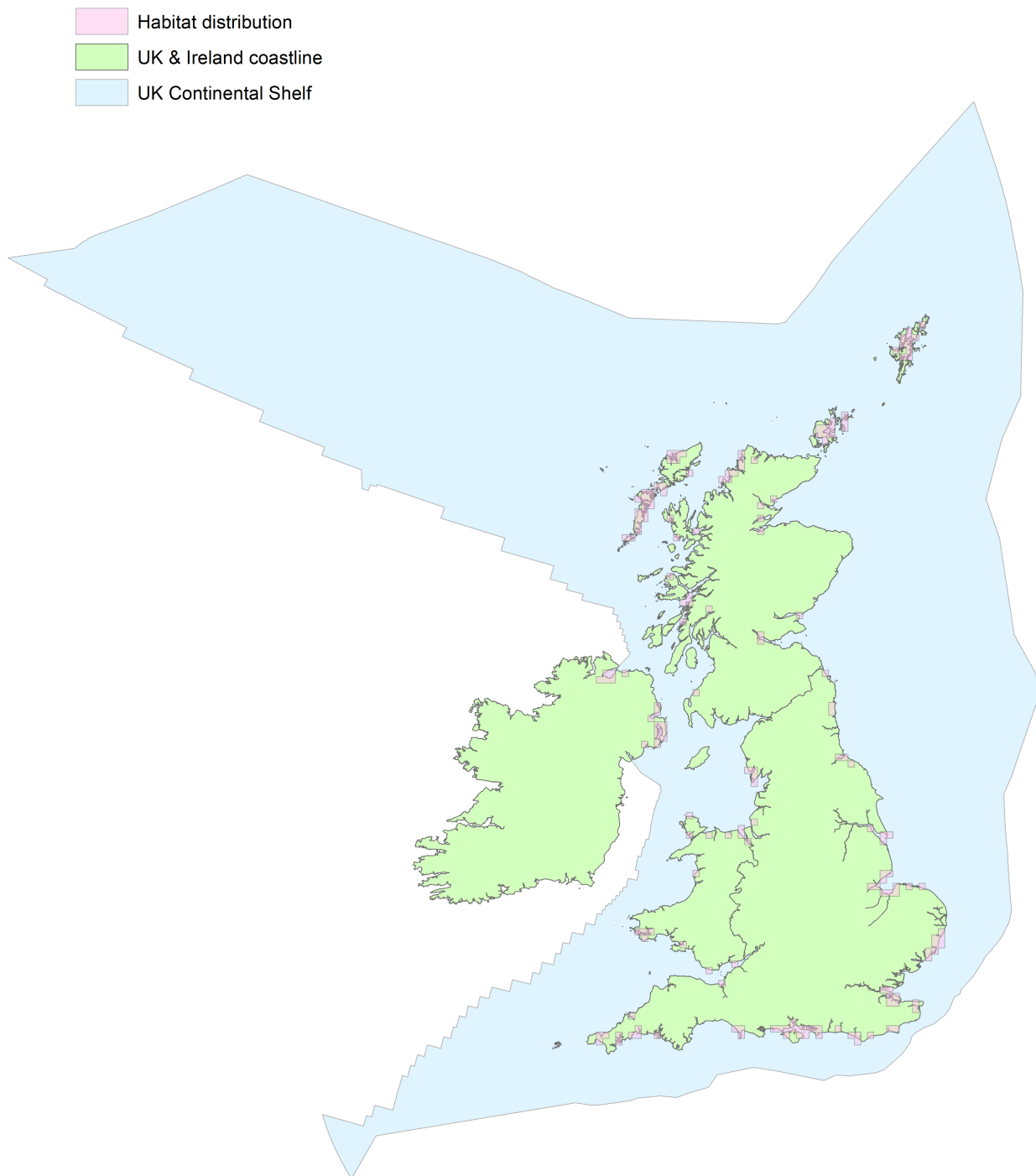UK & Ireland coastline

UK Continental Shelf

Figure 1: UK distribution map for H1150 - Coastal lagoons.

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.
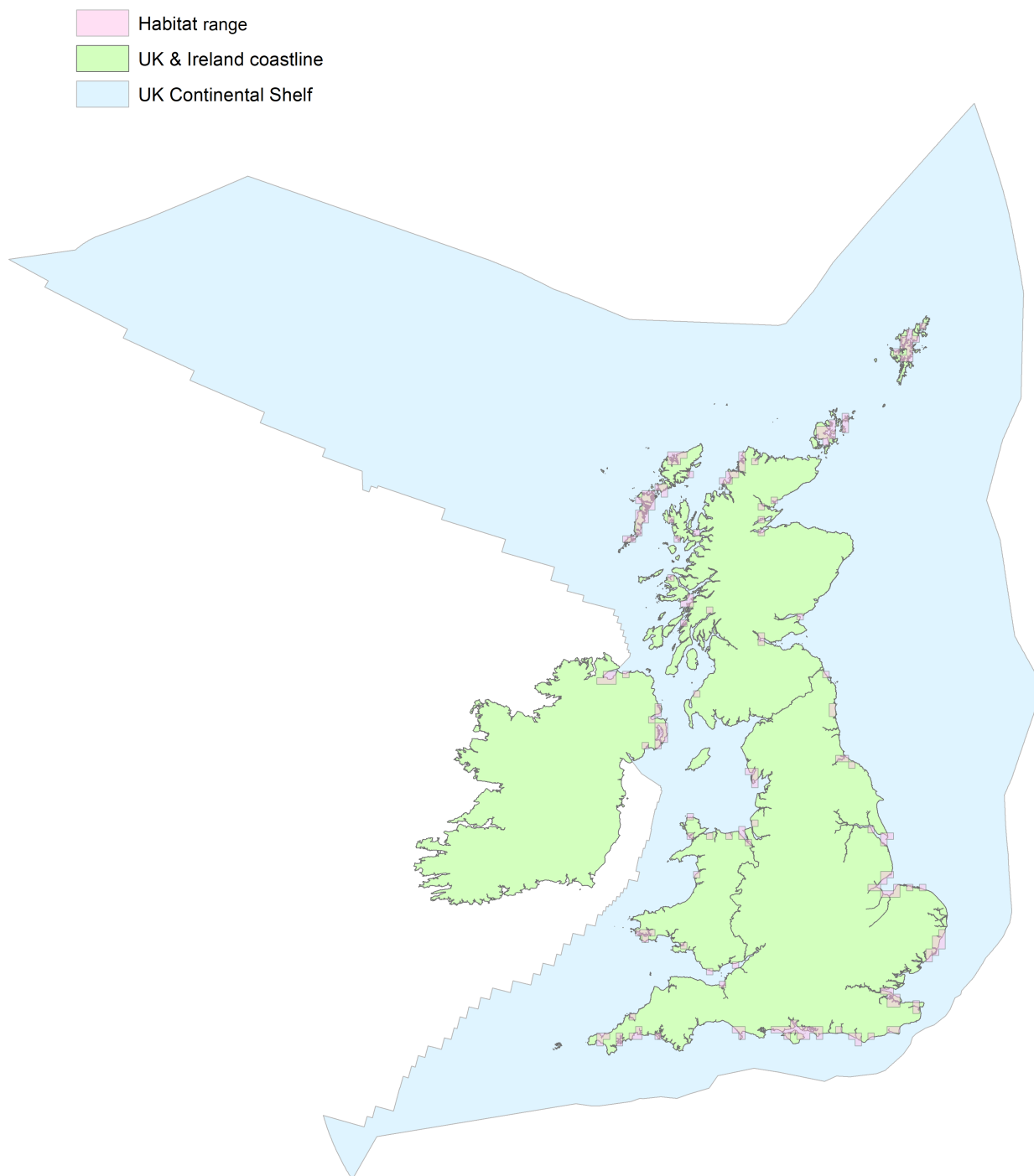
Range Map

Figure 2: UK range map for H1150 - Coastal lagoons.

The range was considered equivalent to the surface area. Coastal lagoons are physiographic features and so their range is determined primarily by geomorphological and hydrographic processes occurring over long time-scales and is not related to biological communities or processes supported by communities.

Explanatory Notes

Habitat code: 1150

Field label	Note
2.1 Year or period	The data sources used to produce this map ranged from 1994 to 2018.
2.3 Distribution map; Method used	The surface area map was gridded to create the distribution map. The 2013 UK Article 17 area data for Annex I Coastal Lagoons was revised at a UK level by the JNCC following updates submitted by the UK Country Agencies. For further details see JNCC website (JNCC 2018a).

Habitat code: 1150 Region code: ATL

Field label	Note
4.1 Surface area	The range was considered equivalent to the surface area. Coastal lagoons are physiographic features and so their range is determined primarily by geomorphological and hydrographic processes occurring over long time-scales and is not related to biological communities or processes supported by communities.
4.3 Short term trend; Direction	The occurrence of this habitat is defined by physiographic processes over long time-scales. While the surface area of some of these individual habitats may have declined due to localised pressures, the geographic spread and distribution of features is not thought to have been reduced.
4.11 Change and reason for change in surface area of range	As a result of improved mapping of the habitat, the surface area of range in UK Coastal Lagoons is larger than the figure reported in 2013.
5.1 Year or period	The data sources used to produce this map ranged from 1994 to 2018.
5.4 Surface area; Method used	The 2013 UK Article 17 area data for Annex I Coastal Lagoons was revised at a UK level by the JNCC following updates submitted by the UK Country Agencies. For further details see JNCC website (JNCC 2018a).
5.6 Short term trend; Direction	Expert judgement was used to determine the short-term trend direction at the UK-level.The short-term trend is stable. The largest proportion of this feature is in Scotland, where the trend is thought to be stable; Loch a Bhruga was lost via a coast protection scheme, although it is a small loss. There are reported losses in Wales, which are very small relative to the entire lagoon resource. The short-term trend is uncertain in England and stable in Northern Ireland.
5.14 Change and reason for change in surface area	As a result of improved mapping of the habitat, the surface area UK Coastal Lagoons is larger than the figure reported in 2013.
6.1 Condition of habitat	The area of habitat in 'good' (favourable) 'not good (unfavourable) and unknown condition was assessed in each of the four countries and the results were summed. 9% of the habitat is thought to be in unfavourable (not good) condition, 75% of the habitat is thought to be in favourable (good condition) and 15% of the habitat is in unknown condition. The structure and functions conservation status is, therefore, unfavourable-inadequate, it was also unfavourable-inadequate in 2013.
6.4 Short term trend of habitat area in good condition; Direction	The short-term trend of habitat in good condition was assessed by the four countries and the results were aggregated (see 2019 UK Approach Document). Scotland has the largest proportion of UK Coastal Lagoons and reported a stable short-term trend along with Northern Ireland. The short-term trend was also stable in 2013.
9.1 Future prospects of parameters	Future trends for each parameter were selected by the four countries and then aggregated to give a future trend for the UK (see 2019 UK Approach Document). Table 32 in the EU Guidelines was used to bring the future trend and conservation status of each parameter together to conclude on future prospects.

9.1a Future prospects of parameters - Range	The future trend of range is stable because the range of this habitat is not expected to change in the next 12 years. Future prospects are good because the future trend of range is stable and the conservation status of range is Favourable. Future prospects were also good in 2013.
9.1b Future prospects of parameters - Area	The future trend of area is unknown because lagoons are likely to be susceptible to climate change, but it is unclear what will happen as a consequence of this. This explains why Future prospects for this parameter have changed from good (2013) to unknown.
9.1c Future prospects of parameters - Structure and functions	The future trend of structure and functions is unknown, because lagoons are likely to be susceptible to climate change, but it is unclear what will happen as a consequence of this. Future prospects are, therefore, unknown and were also unknown in 2013.
11.3 Surface area of the habitat type inside the network; Method used	The estuaries surface area map was intersected with all Natura 2000 sites that contain qualifying marine habitats or species (JNCC, 2018b). The cut-off used for SAC designations was Tranche 56 in November 2017.