

Appendix 9.17

Ecology and Nature Conservation – Statutory
Designated Site Citations

JNCC is a statutory adviser to UK Government and devolved administrations



[Home](#) > [UK](#) > [Protected Sites](#) > [Special Protection Areas](#) > [SPA Review](#) > [SPA Review site accounts](#)

SPA description

(information as published 2001)

Morecambe Bay

Country	England
Unitary Authority	Lancashire, Cumbria
SPA status	Classified 24/09/1999
Latitude	54 07 19 N
Longitude	02 57 21 W
SPA EU code	UK9005081
Area (ha)	37404.6
Component SSSI/ASSIs	Lune Estuary Morecambe Bay Roudsea Wood and Mosses South Walney and Piel Channel Flats Wyre Estuary



Morecambe Bay is located on the Irish Sea coast of north-west England. It is one of the largest estuarine systems in the UK and is fed by five main river channels (the Leven, Kent, Keer, Lune and Wyre) which drain through the intertidal flats of sand and mud. Mussel *Mytilus edulis* beds and banks of shingle are present, and locally there are stony outcrops. The whole system is dynamic, with shifting channels and phases of erosion and accretion affecting the estuarine deposits and surrounding saltmarshes. The flats contain an abundant invertebrate fauna that supports many of the waterbirds using the bay. The capacity of the bay to support large numbers of birds derives from these rich intertidal food sources together with adjacent freshwater wetlands, fringing saltmarshes and saline lagoons, as well as dock structures and shingle banks that provide secure roosts at high tide. The site is of European importance throughout the year for a wide range of bird species. In summer, areas of shingle and sand hold breeding populations of terns, whilst very large numbers of geese, ducks and waders not only overwinter, but (especially for waders) also use the site in spring and autumn migration periods. The bay is of particular importance during migration periods for waders moving up the west coast of Britain.

Qualifying species

For individual species accounts visit the [Species Accounts section](#)

This site qualifies under **Article 4.1** of the Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive:

During the breeding season;

Little Tern *Sterna albibrons*, 26 pairs representing at least 1.1% of the breeding population in Great Britain (Count, as at 1994)

Sandwich Tern *Sterna sandvicensis*, 290 pairs representing at least 2.1% of the breeding population in Great Britain (5 year peak mean for 1992 to 1996)

Over winter;

Bar-tailed Godwit *Limosa lapponica*, 2,611 individuals representing at least 4.9% of the wintering population in Great Britain (5 year peak mean for 1991/92 to 1995/96)

Golden Plover *Pluvialis apricaria*, 4,097 individuals representing at least 1.6% of the wintering population in Great Britain (5 year mean for 1991/92 to 1995/96)

This site also qualifies under **Article 4.2** of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species:

During the breeding season;

Herring Gull *Larus argentatus*, 11,000 pairs representing at least 1.2% of the breeding Northwestern Europe (breeding) and Iceland/Western Europe - breeding population (5 year mean 1992 to 1996)

Lesser Black-backed Gull *Larus fuscus*, 22,000 pairs representing at least 17.7% of the breeding Western Europe/Mediterranean/Western Africa population (5 year mean 1992 to 1996)

On passage;

Ringed Plover *Charadrius hiaticula*, 693 individuals representing at least 1.4% of the Europe/Northern Africa - wintering population (5 year peak mean for 1991/92 to 1995/96)

Sanderling *Calidris alba*, 2,466 individuals representing at least 2.5% of the Eastern Atlantic/Western & Southern Africa - wintering population (Count as at May 1995)

Over winter;

Curlew *Numenius arquata*, 13,620 individuals representing at least 3.9% of the wintering Europe - breeding population (5 year peak mean for 1991/92 to 1995/96)

Dunlin *Calidris alpina alpina*, 52,671 individuals representing at least 3.8% of the wintering Northern Siberia/Europe/Western Africa population (5 year peak mean for 1991/92 to 1995/96)

Grey Plover *Pluvialis squatarola*, 1,813 individuals representing at least 1.2% of the wintering Eastern Atlantic - wintering population (5 year peak mean for 1991/92 to 1995/96)

Knot *Calidris canutus*, 29,426 individuals representing at least 8.4% of the wintering Northeastern Canada/Greenland/Iceland/Northwestern Europe population (5 year peak mean for 1991/92 to 1995/96)

Oystercatcher *Haematopus ostralegus*, 47,572 individuals representing at least 5.3% of the wintering Europe & Northern/Western Africa population (5 year peak mean for 1991/92 to 1995/96)

Pink-footed Goose *Anser brachyrhynchus*, 2,475 individuals representing at least 1.1% of the wintering Eastern Greenland/Iceland/UK population (5 year peak mean for 1991/92 to 1995/96)

Pintail *Anas acuta*, 2,804 individuals representing at least 4.7% of the wintering Northwestern Europe population (5 year peak mean for 1991/92 to 1995/96)

Redshank *Tringa totanus*, 6,336 individuals representing at least 4.2% of the wintering Eastern Atlantic - wintering population (5 year peak mean for 1989/90 to 1993/94)

Shelduck *Tadorna tadorna*, 6,372 individuals representing at least 2.1% of the wintering Northwestern Europe population (5 year peak mean for 1991/92 to 1995/96)

Turnstone *Arenaria interpres*, 1,583 individuals representing at least 2.3% of the wintering Western Palearctic - wintering population (5 year peak mean for 1991/92 to 1995/96)

Assemblage qualification: A seabird assemblage of international importance

The area qualifies under **Article 4.2** of the Directive (79/409/EEC) by regularly supporting at least 20,000 seabirds

During the breeding season, the area regularly supports 61,858 individual seabirds (5 year peak mean for 1991/92 to 1995/96) including: Herring Gull *Larus argentatus*, Lesser Black-backed Gull *Larus fuscus*, Little Tern *Sterna albifrons*, Sandwich Tern *Sterna sandvicensis*.

Assemblage qualification: A wetland of international importance.

The area qualifies under **Article 4.2** of the Directive (79/409/EEC) by regularly supporting at least 20,000 waterfowl

Over winter, the area regularly supports 210,668 individual waterfowl (5 year peak mean for 1991/92 to 1995/96) including: Great Crested Grebe *Podiceps cristatus*, Bar-tailed Godwit *Limosa lapponica*, Pink-footed Goose *Anser brachyrhynchus*, Shelduck *Tadorna tadorna*, Pintail *Anas acuta*, Oystercatcher *Haematopus ostralegus*, Grey Plover *Pluvialis squatarola*, Knot *Calidris canutus*, Dunlin *Calidris alpina alpina*, Curlew *Numenius arquata*, Golden Plover *Pluvialis apricaria*, Turnstone *Arenaria interpres*, Black-tailed Godwit *Limosa limosa islandica*, Cormorant *Phalacrocorax carbo*, Wigeon *Anas penelope*, Teal *Anas crecca*, Mallard *Anas platyrhynchos*, Eider *Somateria mollissima*, Goldeneye *Bucephala clangula*, Red-breasted Merganser *Mergus serrator*, Ringed Plover *Charadrius hiaticula*, Lapwing *Vanellus vanellus*, Sanderling *Calidris alba*, Redshank *Tringa totanus*, Whimbrel *Numenius phaeopus*.

Note:

Many designated sites are on private land: the listing of a site in these pages does not imply any right of public access.

Note that sites selected for waterbird species on the basis of their occurrence in the breeding, passage or winter periods also provide legal protection for these species when they occur at other times of the year.

Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8th Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX. 22 of the 9th Conference of the Contracting Parties (2005).

Notes for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 7, 2nd edition, as amended by COP9 Resolution IX.1 Annex B). A 3rd edition of the Handbook, incorporating these amendments, is in preparation and will be available in 2006.
3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

1. Name and address of the compiler of this form:

Joint Nature Conservation Committee

Monkstone House

City Road

Peterborough

Cambridgeshire PE1 1JY

UK

Telephone/Fax: +44 (0)1733 – 562 626 / +44 (0)1733 – 555 948

Email: RIS@JNCC.gov.uk

FOR OFFICE USE ONLY.

DD MM YY

--	--	--

Designation date

--	--	--	--	--	--

Site Reference Number

2. Date this sheet was completed/updated:

Designated: 04 October 1996

3. Country:

UK (England)

4. Name of the Ramsar site:

Morecambe Bay

5. Designation of new Ramsar site or update of existing site:

This RIS is for: Updated information on an existing Ramsar site

6. For RIS updates only, changes to the site since its designation or earlier update:

a) Site boundary and area:

** Important note: If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

7. Map of site included:

Refer to Annex III of the *Explanatory Notes and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

a) A map of the site, with clearly delineated boundaries, is included as:

- i) **hard copy** (required for inclusion of site in the Ramsar List): *yes* ✓ -or- *no* ☐;
- ii) **an electronic format** (e.g. a JPEG or ArcView image) *Yes*
- iii) **a GIS file providing geo-referenced site boundary vectors and attribute tables** *yes* ✓ -or- *no* ☐;

b) **Describe briefly the type of boundary delineation applied:**

e.g. the boundary is the same as an existing protected area (nature reserve, national park etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

The site boundary is the same as, or falls within, an existing protected area.

For precise boundary details, please refer to paper map provided at designation

8. Geographical coordinates (latitude/longitude):

54 07 19 N 02 57 21 W

9. General location:

Include in which part of the country and which large administrative region(s), and the location of the nearest large town.

Nearest town/city: Morecambe

Morecambe Bay is located within the counties of Cumbria and Lancashire in north-west England

Administrative region: Cumbria; Lancashire

10. Elevation (average and/or max. & min.) (metres): 11. Area (hectares): 37404.6

Min.	-3
Max.	8
Mean	0

12. General overview of the site:

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

Morecambe Bay lies between the coasts of South Cumbria and Lancashire, and represents the largest continuous intertidal area in Britain. Morecambe Bay comprises the estuaries of five rivers and the accretion of mudflats behind Walney Island. The area is of intertidal mud and sandflats, with associated saltmarshes, shingle beaches and other coastal habitats. It is a component in the chain of west coast estuaries of outstanding importance for passage and overwintering waterfowl (supporting the third-largest number of wintering waterfowl in Britain), and breeding waterfowl, gulls and terns.

13. Ramsar Criteria:

Circle or underline each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11).

4, 5, 6

14. Justification for the application of each Criterion listed in 13 above:

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

Ramsar criterion 4

The site is a staging area for migratory waterfowl including internationally important numbers of passage ringed plover *Charadrius hiaticula*.

Ramsar criterion 5

Assemblages of international importance:

Species with peak counts in winter:

223709 waterfowl (5 year peak mean 1998/99-2002/2003)

Ramsar criterion 6 – species/populations occurring at levels of international importance.

Qualifying Species/populations (as identified at designation):

Species regularly supported during the breeding season:

Lesser black-backed gull , *Larus fuscus graellsii*, W Europe/Mediterranean/W Africa 19666 apparently occupied nests, representing an average of 13.3% of the breeding population (Seabird 2000 Census)

Herring gull , *Larus argentatus argentatus*, NW Europe and Iceland/W Europe) 10431 apparently occupied nests, representing an average of 2.8% of the breeding population (Seabird 2000 Census)

Sandwich tern , *Sterna (Thalasseus) sandvicensis sandvicensis*, W Europe 290 pairs, representing an average of 2.8% of the GB population (5 year mean for 1992 to 1996)

Species with peak counts in spring/autumn:

Great cormorant , *Phalacrocorax carbo carbo*, NW Europe 967 individuals, representing an average of 4.2% of the GB population (5 year peak mean 1998/9-2002/3)

Common shelduck , *Tadorna tadorna*, NW Europe 7032 individuals, representing an average of 2.3% of the population (5 year peak mean 1998/9-2002/3)

Northern pintail , *Anas acuta*, NW Europe 3743 individuals, representing an average of 6.2% of the population (5 year peak mean 1998/9-2002/3)

Common eider , *Somateria mollissima mollissima*, NW Europe 5657 individuals, representing an average of 7.7% of the GB population (5 year peak mean 1998/9-2002/3)

Eurasian oystercatcher , *Haematopus ostralegus ostralegus*, Europe & NW Africa -wintering 66577 individuals, representing an average of 6.5% of the population (5 year peak mean 1998/9-2002/3)

Ringed plover , *Charadrius hiaticula*, Europe/Northwest Africa 1041 individuals, representing an average of 1.4% of the population (5 year peak mean 1998/9-2002/3)

Grey plover , *Pluvialis squatarola*, E Atlantic/W Africa -wintering 1655 individuals, representing an average of 3.1% of the GB population (5 year peak mean 1998/9-2002/3)

Sanderling , *Calidris alba*, Eastern Atlantic 703 individuals, representing an average of 3.4% of the GB population (5 year peak mean 1998/9-2002/3 - spring peak)

Eurasian curlew , *Numenius arquata arquata*, N. a. arquata Europe (breeding) 20018 individuals, representing an average of 4.7% of the population (5 year peak mean 1998/9-2002/3)

Common redshank , <i>Tringa totanus totanus</i> ,	8816 individuals, representing an average of 3.5% of the population (5 year peak mean 1998/9-2002/3)
Ruddy turnstone , <i>Arenaria interpres interpres</i> , NE Canada, Greenland/W Europe & NW Africa	1371 individuals, representing an average of 1.4% of the population (5 year peak mean 1998/9-2002/3)
Lesser black-backed gull , <i>Larus fuscus graellsii</i> ,	40393 individuals, representing an average of 7.6% of the population (5 year peak mean 1998/9-2002/3)
Species with peak counts in winter:	
Great crested grebe , <i>Podiceps cristatus cristatus</i> , NW Europe	217 individuals, representing an average of 1.3% of the GB population (5 year peak mean 1998/9-2002/3)
Pink-footed goose , <i>Anser brachyrhynchus</i> , Greenland, Iceland/UK	3665 individuals, representing an average of 1.5% of the population (5 year peak mean 1998/9-2002/3)
Eurasian wigeon , <i>Anas penelope</i> , NW Europe	6133 individuals, representing an average of 1.5% of the GB population (5 year peak mean 1998/9-2002/3)
Common goldeneye , <i>Bucephala clangula clangula</i> , NW & C Europe	285 individuals, representing an average of 1.1% of the GB population (5 year peak mean 1998/9-2002/3)
Red-breasted merganser , <i>Mergus serrator</i> , NW & C Europe	327 individuals, representing an average of 3.3% of the GB population (5 year peak mean 1998/9-2002/3)
European golden plover , <i>Pluvialis apricaria apricaria</i> , P. a. altifrons Iceland & Faroes/E Atlantic	4073 individuals, representing an average of 1.6% of the GB population (5 year peak mean 1998/9-2002/3)
Northern lapwing , <i>Vanellus vanellus</i> , Europe - breeding	16492 individuals, representing an average of 1% of the GB population (5 year peak mean 1998/9-2002/3)
Red knot , <i>Calidris canutus islandica</i> , W & Southern Africa (wintering)	66335 individuals, representing an average of 14.7% of the population (5 year peak mean 1998/9-2002/3)
Dunlin , <i>Calidris alpina alpina</i> , W Siberia/W Europe	26416 individuals, representing an average of 1.9% of the population (5 year peak mean 1998/9-2002/3)
Bar-tailed godwit , <i>Limosa lapponica lapponica</i> , W Palearctic	4579 individuals, representing an average of 3.8% of the population (5 year peak mean 1998/9-2002/3)
Contemporary data and information on waterbird trends at this site and their regional (sub-national) and national contexts can be found in the Wetland Bird Survey report, which is updated annually. See www.bto.org/survey/webs/webs-alerts-index.htm . See Sections 21/22 for details of noteworthy species Details of bird species occurring at levels of National importance are given in Section 22	

15. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region:

Atlantic

b) biogeographic regionalisation scheme (include reference citation):

Council Directive 92/43/EEC

16. Physical features of the site:

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Soil & geology	biogenic reef, boulder, clay, cobble, gravel, limestone, mud, neutral, pebble, sand, sandstone, sedimentary, shingle
Geomorphology and landscape	coastal, enclosed coast (including embayment), estuary, floodplain, intertidal sediments (including sandflat/mudflat), island, lagoon, lowland, open coast (including bay), pools, shingle bar, subtidal rock (including rocky reefs), subtidal sediments (including sandbank/mudbank)
Nutrient status	mesotrophic
pH	circumneutral
Salinity	saline / euhaline
Soil	mainly mineral
Water permanence	usually permanent
Summary of main climatic features	Annual averages (Blackpool, 1971–2000) (www.metoffice.com/climate/uk/averages/19712000/sites/blackpool.html) Max. daily temperature: 12.9° C Min. daily temperature: 6.4° C Days of air frost: 40.3 Rainfall: 871.3 mm Hrs. of sunshine: 1540.3

General description of the Physical Features:

Morecambe Bay is one of the largest estuarine systems in the UK and is fed by five main river channels (the Leven, Kent, Keer, Lune and Wyre) which drain through the intertidal flats of sand and mud. Mussel *Mytilus edulis* beds and banks of shingle are present, and locally there are stony outcrops. The whole system is dynamic, with shifting channels and phases of erosion and accretion affecting the estuarine deposits and surrounding saltmarshes.

17. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, general land use, and climate (including climate type).

Morecambe Bay is one of the largest estuarine systems in the UK and is fed by five main river channels (the Leven, Kent, Keer, Lune and Wyre) which drain through the intertidal flats of sand and mud. Mussel *Mytilus edulis* beds and banks of shingle are present, and locally there are stony outcrops. The whole system is dynamic, with shifting channels and phases of erosion and accretion affecting the estuarine deposits and surrounding saltmarshes.

18. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

Shoreline stabilisation and dissipation of erosive forces, Sediment trapping, Flood water storage / desynchronisation of flood peaks

19. Wetland types:

Human-made wetland, Marine/coastal wetland

Code	Name	% Area
G	Tidal flats	77.7
F	Estuarine waters	13
H	Salt marshes	8.4
B	Marine beds (e.g. sea grass beds)	0.4
E	Sand / shingle shores (including dune systems)	0.3
6	Reservoirs / barrages / dams	0.2

20. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

The main habitat types of the Morecambe Bay Ramsar site are: Intertidal mudflats and sandflats, saltmarsh, shingle, rocky scars, sand dunes.

A large shallow estuary, with extensive intertidal mudflats, saltmarshes, subtidal sediments and rocky shorelines.

There are small areas of eelgrass *Zostera* beds and vegetated shingle. There is also the presence of the honeycomb worm *Sabellaria alveolata*.

The saltmarshes are traditionally heavily grazed and provide important wildfowl habitat.

Ecosystem services

21. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

None reported

22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 12. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

Birds**Species currently occurring at levels of national importance:****Species regularly supported during the breeding season:**

Black-headed gull, *Larus ridibundus*, N & C Europe 1620 apparently occupied nests, representing an average of 1.2% of the GB population (Seabird 2000 Census)

Species with peak counts in spring/autumn:

Ruff, *Philomachus pugnax*, Europe/W Africa 33 individuals, representing an average of 4.7% of the GB population (5 year peak mean 1998/9-2002/3)

Whimbrel , <i>Numenius phaeopus</i> , Europe/Western Africa	226 individuals, representing an average of 7.5% of the GB population (5 year peak mean 1998/9-2002/3 - spring peak)
Spotted redshank , <i>Tringa erythropus</i> , Europe/W Africa	8 individuals, representing an average of 5.8% of the GB population (5 year peak mean 1998/9-2002/3)
Common greenshank , <i>Tringa nebularia</i> , Europe/W Africa	79 individuals, representing an average of 13.2% of the GB population (5 year peak mean 1998/9-2002/3)
Black-headed gull , <i>Larus ridibundus</i> , N & C Europe	19907 individuals, representing an average of 1.1% of the GB population (5 year peak mean 1998/9-2002/3)
Species with peak counts in winter:	
Eurasian teal , <i>Anas crecca</i> , NW Europe	2363 individuals, representing an average of 1.2% of the GB population (5 year peak mean 1998/9-2002/3)
Black-tailed godwit , <i>Limosa limosa islandica</i> , Iceland/W Europe	218 individuals, representing an average of 1.4% of the GB population (5 year peak mean 1998/9-2002/3)

Species Information

None reported

23. Social and cultural values:

Describe if the site has any general social and/or cultural values e.g. fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values.

- Aesthetic
- Aquatic vegetation (e.g. reeds, willows, seaweed)
- Archaeological/historical site
- Environmental education/ interpretation
- Fisheries production
- Livestock grazing
- Non-consumptive recreation
- Scientific research
- Sport fishing
- Sport hunting
- Subsistence fishing
- Tourism
- Traditional cultural
- Transportation/navigation

b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning? No

If Yes, describe this importance under one or more of the following categories:

- i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:
- ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:

- iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:
- iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

24. Land tenure/ownership:

Ownership category	On-site	Off-site
Non-governmental organisation (NGO)	+	+
National/Crown Estate	+	+
Private	+	+

25. Current land (including water) use:

Activity	On-site	Off-site
Nature conservation	+	+
Tourism	+	+
Recreation	+	+
Current scientific research	+	+
Collection of non-timber natural products: commercial	+	
Commercial forestry		+
Fishing: commercial	+	+
Fishing: recreational/sport	+	
Fishing: subsistence	+	
Marine/saltwater aquaculture	+	
Gathering of shellfish	+	
Shell collection	+	
Bait collection	+	
Arable agriculture (unspecified)		+
Shifting arable agriculture		+
Permanent arable agriculture		+
Grazing (unspecified)	+	+
Permanent pastoral agriculture	+	+
Hunting: recreational/sport	+	+
Industrial water supply	+	
Industry	+	+
Sewage treatment/disposal	+	+
Harbour/port	+	+
Flood control	+	+
Mineral exploration (excl. hydrocarbons)		+
Oil/gas exploration		+
Oil/gas production		+
Transport route	+	+
Domestic water supply		+
Urban development		+
Non-urbanised settlements		+

26. Factors (past, present or potential) adversely affecting the site’s ecological character, including changes in land (including water) use and development projects:

Explanation of reporting category:

1. Those factors that are still operating, but it is unclear if they are under control, as there is a lag in showing the management or regulatory regime to be successful.
2. Those factors that are not currently being managed, or where the regulatory regime appears to have been ineffective so far.

NA = Not Applicable because no factors have been reported.

Adverse Factor Category	Reporting Category	Description of the problem (Newly reported Factors only)	On-Site	Off-Site	Major Impact?
No factors reported	NA				

For category 2 factors only.

What measures have been taken / are planned / regulatory processes invoked, to mitigate the effect of these factors?

Is the site subject to adverse ecological change? NO

27. Conservation measures taken:

List national category and legal status of protected areas, including boundary relationships with the Ramsar site; management practices; whether an officially approved management plan exists and whether it is being implemented.

Conservation measure	On-site	Off-site
Site/ Area of Special Scientific Interest (SSSI/ASSI)	+	
National Nature Reserve (NNR)	+	+
Special Protection Area (SPA)	+	
Land owned by a non-governmental organisation for nature conservation	+	+
Site management statement/plan implemented	+	
Area of Outstanding National Beauty (AONB)	+	+
Special Area of Conservation (SAC)	+	

b) Describe any other current management practices:

The management of Ramsar sites in the UK is determined by either a formal management plan or through other management planning processes, and is overseen by the relevant statutory conservation agency. Details of the precise management practises are given in these documents.

28. Conservation measures proposed but not yet implemented:

e.g. management plan in preparation; official proposal as a legally protected area, etc.

No information available

29. Current scientific research and facilities:

e.g. details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

Fauna.

Numbers of migratory and wintering wildfowl and waders are monitored annually as part of the national Wetland Birds Survey (WeBS) organised by the British Trust for Ornithology, Wildfowl & Wetlands Trust, the Royal Society for the Protection of Birds and the Joint Nature Conservation Committee.

Habitat.

Baseline habitat review/survey being completed by English Nature for European Marine Site Management Scheme.

30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:

e.g. visitor centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

None reported

31. Current recreation and tourism:

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

Activities.

Angling, wildfowling, bait collection, walking, watersports (including sailing, windsurfing) and birdwatching.

Facilities provided.

There are interpretative facilities at South Walney, Foulney and Leighton Moss reserves, and in the nearby town of Morecambe.

Seasonality.

Wildfowling occurs from 1 September to 20 February.

32. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept. of Agriculture/Dept. of Environment, etc.

Head, Natura 2000 and Ramsar Team, Department for Environment, Food and Rural Affairs, European Wildlife Division, Zone 1/07, Temple Quay House, 2 The Square, Temple Quay, Bristol, BS1 6EB

33. Management authority:

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Site Designations Manager, English Nature, Sites and Surveillance Team, Northminster House, Northminster Road, Peterborough, PE1 1UA, UK

34. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

Site-relevant references

Anon. (1996) *Morecambe Bay strategy*. Morecambe Bay Project, Kendal

Barne, JH, Robson, CF, Kaznowska, SS, Doody, JP & Davidson, NC (eds.) (1996) *Coasts and seas of the United Kingdom. Region 13. Northern Irish Sea: Colwyn Bay to Stranraer, including the Isle of Man*. Joint Nature Conservation Committee, Peterborough. (Coastal Directories Series.)

Buck, AL (ed.) (1993) *An inventory of UK estuaries. Volume 3. North-west Britain*. Joint Nature Conservation Committee, Peterborough

Burd, F (1989) *The saltmarsh survey of Great Britain. An inventory of British saltmarshes*. Nature Conservancy Council, Peterborough (Research & Survey in Nature Conservation, No. 17)

Corlett, J & others (1972) The ecology of Morecambe Bay. *Journal of Applied Ecology*, **9**, 153-234

- Covey, R (1998) *Marine Nature Conservation Review Sector 11. Liverpool Bay and the Solway Firth: area summaries*. Joint Nature Conservation Committee, Peterborough (Coasts and seas of the United Kingdom. MNCR series)
- Cranswick, PA, Waters, RJ, Musgrove, AJ & Pollitt, MS (1997) *The Wetland Bird Survey 1995–96: wildfowl and wader counts*. British Trust for Ornithology, Wildfowl and Wetlands Trust, Royal Society for the Protection of Birds & Joint Nature Conservation Committee, Slimbridge
- Davison, D (n.d.) *Morecambe Bay. The secrets of the sands*. Morecambe Bay Project, Kendal?
- Dean, T (1990) *The natural history of Walney Island*. Faust, Burnley
- Gray, LC (1980) *Environmental bibliography of north-west England (vice-counties 59, 60, 69 and 70) 1850–1979*. University of Lancaster Library, Lancaster (Library Occasional Paper, No. 10)
- May, VJ & Hansom, JD (eds.) (2003) *Coastal geomorphology of Great Britain*. Joint Nature Conservation Committee, Peterborough (Geological Conservation Review Series, No. 28)
- McLeod, CR, Yeo, M, Brown, AE, Burn, AJ, Hopkins, JJ & Way, SF (eds.) (2004) *The Habitats Directive: selection of Special Areas of Conservation in the UK*. 2nd edn. Joint Nature Conservation Committee, Peterborough.
www.jncc.gov.uk/SACselection
- Mills, DJL (1998) Chapter 11. Liverpool Bay to the Solway (Rhôs-on-Sea to the Mull of Galloway) (MNCR Sector 11). In: *Benthic marine ecosystems of Great Britain and the north-east Atlantic*, ed. by K. Hiscock, 315-338. Joint Nature Conservation Committee, Peterborough. (Coasts and Seas of the United Kingdom. MNCR series)
- Musgrove, AJ, Pollitt, MS, Hall, C, Hearn, RD, Holloway, SJ, Marshall, PE, Robinson, JA & Cranswick, PA (2001) *The Wetland Bird Survey 1999–2000: wildfowl and wader counts*. British Trust for Ornithology, Wildfowl and Wetlands Trust, Royal Society for the Protection of Birds & Joint Nature Conservation Committee, Slimbridge.
www.wwt.org.uk/publications/default.asp?PubID=14
- Parkes, K (1976) Walney. In: *Bird observatories in Britain and Ireland*, ed. by R. Durman, 251-259. Poyser, London
- Ratcliffe, DA (ed.) (1977) *A Nature Conservation Review. The selection of biological sites of national importance to nature conservation in Britain*. Cambridge University Press (for the Natural Environment Research Council and the Nature Conservancy Council), Cambridge (2 vols.)
- Robinson, NA & Pringle, AW (eds.) (1987) *Morecambe Bay: an appraisal of present knowledge*. Centre for North West Regional Studies/ Morecambe Bay Study Group, Lancaster
- Sotheran, I & Walton, R (1997) Broad-scale mapping of Morecambe Bay. *English Nature Research Reports*, No. 232
- Stroud, DA, Chambers, D, Cook, S, Buxton, N, Fraser, B, Clement, P, Lewis, P, McLean, I, Baker, H & Whitehead, S (eds.) (2001) *The UK SPA network: its scope and content*. Joint Nature Conservation Committee, Peterborough (3 vols.)
www.jncc.gov.uk/UKSPA/default.htm
- Taylor, PM & Parker, JG (eds.) (1993) *The coast of north Wales & north west England. An environmental appraisal*. Hamilton Oil Company Ltd., London
- Weighell, AJ, Donnelly, AP & Calder, K (eds.) (2000) *Directory of the Celtic coasts and seas*. Joint Nature Conservation Committee, Peterborough
- Wilson, J (1973) Wader populations of Morecambe Bay, Lancashire. *Bird Study*, 20, 9-23
- Wilson, J (n.d. [~1989]) *Leighton Moss and Morecambe Bay Reserve. The first twenty-five years 1964–1988*. Royal Society for the Protection of Birds

Please return to: **Ramsar Secretariat, Rue Mauverney 28, CH-1196 Gland, Switzerland**
Telephone: +41 22 999 0170 • Fax: +41 22 999 0169 • email: ramsar@ramsar.org

JNCC is a statutory adviser to UK Government and devolved administrations



Home > Protected Sites > Special Areas of Conservation (SAC) > SAC selection

Special Areas of Conservation (SAC)

[UK SAC summary](#)

[UK SAC site list](#)

[England site list](#)

[Northern Ireland](#)

[Scotland](#)

[Wales](#)

[SAC selection](#)

[Summary](#)

[Background to site selection](#)

[Latest changes to the UK SAC list](#)

[Annex I Habitat accounts](#)

[Annex II Species accounts](#)

[Browse cSACs on a map](#)

[Notes on nomenclature](#)

[Search for a SAC](#)

[Other designations on UK SACs](#)

[cSACs in NI which adjoin cSACs in the RoI](#)

[Annex I habitats and Annex II species occurring in the UK](#)

[Abbreviations and acronyms](#)

[Acknowledgements](#)

[References](#)

[Download spatial and summary data](#)

[Download GIS data](#)

[Marine SACs](#)

Morecambe Bay

Site details

Country	England
Unitary Authority	Cumbria; Lancashire
Centroid*	SD371697
Latitude	54 07 09 N
Longitude	02 57 42 W
SAC EU code	UK0013027
Status	Designated Special Area of Conservation (SAC)
Area (ha)	61506.22

* This is the approximate central point of the SAC. In the case of large, linear or composite sites, this may not represent the location where a feature occurs within the SAC.

General site character

Marine areas. Sea inlets (99.1%)
Coastal sand dunes. Sand beaches. Machair (0.8%)
Shingle. Sea cliffs. Islets (0.1%)

[Boundary map](#) and associated biodiversity information on the NBN Gateway.

[Natura 2000 data form](#) for this site as submitted to Europe (PDF format, size 30kb).

[Interactive map](#) from MAGIC (Multi-Agency Geographic Information for the Countryside).

Note:

When undertaking an appropriate assessment of impacts at a site, **all** features of European importance (both primary and non-primary) need to be considered.

Annex I habitats that are a primary reason for selection of this site

1130 [Estuaries](#)

Morecambe Bay in north-west England is the confluence of four principal **estuaries**, the Leven, Kent, Lune and Wyre (the latter lies just outside the site boundary), together with other smaller examples such as the Keer. Collectively these form the largest single area of continuous intertidal mudflats and sandflats in the UK and the best example of muddy sandflats on the west coast. The estuaries are macro-tidal with a spring tidal range of 9 m. The significant tidal prisms of the estuaries result in the Bay being riven by large low-water channel systems. The Kent, Leven and Lune estuaries have been modified variously by railway embankments, flood embankments and training walls but support extensive intertidal areas. Although cobble 'skears' and shingle beaches occur at their mouths, the estuaries consist predominantly of fine sands and muddy sands. The estuaries support dense invertebrate communities, their composition reflecting the salinity and sediment regimes within each estuary. Extensive saltmarshes and glasswort *Salicornia* spp. beds are present in the Lune estuary, contrasting with the fringing saltmarshes and more open intertidal flats of the Leven and Kent estuaries. Most of the saltmarshes are grazed, a characteristic feature of north-west England. In the upper levels of the saltmarshes there are still important transitions from saltmarsh to freshwater and grassland vegetation. Water quality is generally good.

1160 [Mudflats and sandflats not covered by seawater at low tide](#)

Morecambe Bay in north-west England is the confluence of four principal estuaries, the Leven, Kent, Lune and Wyre (the latter lies just outside the site boundary), together with other smaller examples such as the Keer. Collectively these form the largest single area of continuous intertidal **mudflats and sandflats** in the UK and the best example of muddy sandflats on the west coast. At low water, large areas of sandflats are exposed, and these range from the mobile fine sands of the outer Bay to more sheltered sands in the inner areas. With increasing shelter in the Bay's adjoining estuaries, finer sediments settle out and form extensive mudflats, supporting a particularly rich and diverse range of infaunal species.

1160 [Large shallow inlets and bays](#)

Morecambe Bay in north-west England is the second-largest embayment in the UK, after the Wash. It is a large, very shallow, predominantly sandy bay bordered on the south by the channel of the Lune estuary and on the north by Walney Channel. At low tide vast areas of intertidal sandflats are exposed, with small areas of mudflat, particularly in the upper reaches of the associated estuaries. The sediments of the bay are mobile and support a range of community types, from those typical of open coasts (mobile, well-sorted fine sands), grading through sheltered sandy sediments to low-salinity sands and muds in the upper reaches. Apart from the areas of intertidal flats and subtidal sandbanks, Morecambe Bay supports exceptionally large beds of mussels *Mytilus edulis* on exposed 'scars' of boulder and cobble, and small areas of **1170 Reefs** with fucoid algal communities. Of particular note is the rich community of sponges and other associated fauna on tide-swept pebbles and cobbles at the southern end of Walney Channel.

1220 [Perennial vegetation of stony banks](#)



Location of Morecambe Bay SAC/SCI/cSAC

Morecambe Bay represents **Perennial vegetation of stony banks** in north-west England. Walney Island on the shores of Morecambe Bay is a barrier island fringed by shingle with a partial sand covering. Two areas of exposed vegetated shingle occur at the extremes of the barrier. The southern area has been highly modified by eutrophication from a large gull colony, resulting in communities that are unusually species-rich for pioneer shingle vegetation. Perennial rye-grass *Lolium perenne*, common chickweed *Stellaria media* and biting stonecrop *Sedum acre* are constant elements, with dove's-foot crane's-bill *Geranium molle* an unusual and important feature.

1310 [Salicornia and other annuals colonising mud and sand](#)

Two types of pioneer saltmarsh are represented at Morecambe Bay in north-west England. Pioneer glasswort *Salicornia* spp. saltmarsh occurs intermittently along the coastline of the bay, forming a transition from the extensive intertidal sand and mudflats to the distinctive saltmeadows at this site. The sea pearlwort *Sagina maritima* community occurs in open pans on the upper marsh.

1330 [Atlantic salt meadows \(*Glauco-Puccinellietalia maritima*\)](#)

Morecambe Bay is characteristic of saltmarshes in north-west England, with large areas of closely grazed upper marsh. The mid-upper marsh vegetation is strongly dominated by the saltmarsh-grass/fescue *Puccinellia/Festuca* communities, of which over 1,000 ha occur here, and by smaller areas of saltmarsh rush *Juncus gerardii* community. NVC type SM18 *Juncus maritimus* community is also more strongly represented here than elsewhere in England. The plant species include both southern elements, such as lesser centaury *Centaureum pulchellum*, and northern elements, such as saltmarsh flat-sedge *Blysmus rufus* and few-flowered spike-rush *Eleocharis quinqueflora*.

2120 [Shifting dunes along the shoreline with *Ammophila arenaria* \('white dunes'\)](#)

Shifting dune vegetation forms a major component of the active sand dune systems at the entrance to Morecambe Bay on Walney Island and the Duddon Estuary at Sandscale Haws. A small area is also present at the entrance to the Wyre. Sandscale Haws supports a mosaic of shifting communities, which form a continuous block around the seaward edge of this site. There are transitions to **2110 Embryonic shifting dunes**. The prograding shingle spits at either end of Walney Island support dune systems at South End and North End Haws. Species associated with these shifting dunes include sea holly *Eryngium maritimum*, sea spurge *Euphorbia paralias*, Portland spurge *Euphorbia portlandica* and sea bindweed *Calystegia soldanella*.

2130 [Fixed dunes with herbaceous vegetation \('grey dunes'\)](#) * Priority feature

Sandscale Haws at the entrance to the Duddon Estuary supports the largest area of calcareous **fixed dunes** in Cumbria, which contrast with the acidic dunes at the adjacent North End Haws on Walney Island. South End Haws on Walney Island supports a smaller area of fixed dunes. North Walney and Sandscale in particular show well-conserved structure and function. The fixed dunes support a rich plant diversity including wild pansy *Viola tricolor*, lady's bedstraw *Galium verum*, common restharrow *Ononis repens* and the uncommon dune fescue *Vulpia membranacea* and dune helleborine *Epipactis dunensis*.

2190 [Humid dune slacks](#)

Dune slacks are particularly well-represented at Sandscale Haws, the largest calcareous dune system in Cumbria. The slacks support a good range of vegetation communities and are very species-rich. Several uncommon species including marsh helleborine *Epipactis palustris*, dune helleborine *Epipactis dunensis* and coralroot orchid *Corallorhiza trifida* occur.

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site

1110 [Sandbanks which are slightly covered by sea water all the time](#)

1150 [Coastal lagoons](#) * Priority feature

1170 [Reefs](#)

2110 [Embryonic shifting dunes](#)

2150 [Atlantic decalcified fixed dunes \(*Calluno-Ulicetea*\)](#) * Priority feature

2170 [Dunes with *Salix repens* ssp. *argentea* \(*Salicion arenariae*\)](#)

Annex II species that are a primary reason for selection of this site

1166 [Great crested newt](#) *Triturus cristatus*

The site, located on the southern shore of the Duddon estuary in north-west England, consists of a large sand dune complex containing both permanent and ephemeral waterbodies and man-made scrapes. Breeding colonies of great-crested newts are known in approximately 20 of these ponds, and are believed to utilise 200 ha of the 282 ha site, foraging widely over foreshore, yellow dunes, dune-heath and scrub.

Annex II species present as a qualifying feature, but not a primary reason for site selection

Not applicable.

Many designated sites are on private land: the listing of a site in these pages does not imply any right of public access.

NATURA 2000

STANDARD DATA FORM

FOR SPECIAL PROTECTION AREAS (SPA)
FOR SITES ELIGIBLE FOR IDENTIFICATION AS SITES OF COMMUNITY IMPORTANCE (SCI)
AND
FOR SPECIAL AREAS OF CONSERVATION (SAC)

1. Site identification:

1.1 Type 1.2 Site code

1.3 Compilation date 1.4 Update

1.5 Relationship with other Natura 2000 sites

1.6 Respondent(s)

1.7 Site name

1.8 Site indication and designation classification dates

date site proposed as eligible as SCI	
date confirmed as SCI	
date site classified as SPA	201008
date site designated as SAC	

2. Site location:

2.1 Site centre location

longitude	latitude
03 12 34 W	53 36 10 N

2.2 Site area (ha) 2.3 Site length (km)

2.5 Administrative region

NUTS code	Region name	% cover
0	Marine	99.9%
UKL13	Conwy and Denbighshire	0.1%

2.6 Biogeographic region

Alpine

Atlantic

Boreal

Continental

Macaronesia

Mediterranean

3. Ecological information:

3.1 Annex I habitats

Habitat types present on the site and the site assessment for them:

Annex I habitat	% cover	Representativity	Relative surface	Conservation status	Global assessment

3.2 Annex I birds and regularly occurring migratory birds not listed on Annex I

Code	Species name	Population			Site assessment				
		Resident	Migratory		Population	Conservation	Isolation	Global	
			Breed	Winter					Stage
A001	<i>Gavia stellata</i>			922 I		C		C	
A065	<i>Melanitta nigra</i>			54675 I		C		C	

4. Site description:

4.1 General site character

Habitat classes	% cover
Marine areas. Sea inlets	100.0
Tidal rivers. Estuaries. Mud flats. Sand flats. Lagoons (including saltwork basins)	
Salt marshes. Salt pastures. Salt steppes	
Coastal sand dunes. Sand beaches. Machair	
Shingle. Sea cliffs. Islets	
Inland water bodies (standing water, running water)	
Bogs. Marshes. Water fringed vegetation. Fens	
Heath. Scrub. Maquis and garrigue. Phygrana	
Dry grassland. Steppes	
Humid grassland. Mesophile grassland	
Alpine and sub-alpine grassland	
Improved grassland	
Other arable land	
Broad-leaved deciduous woodland	
Coniferous woodland	
Evergreen woodland	
Mixed woodland	
Non-forest areas cultivated with woody plants (including orchards, groves, vineyards, dehesas)	
Inland rocks. Screes. Sands. Permanent snow and ice	
Other land (including towns, villages, roads, waste places, mines, industrial sites)	
Total habitat cover	100%

4.1 Other site characteristics

Soil & geology:

Clay, Mud, Sand, Sandstone/mudstone, Sedimentary, Shingle

Geomorphology & landscape:

Glacial sediments, Intertidal rock, Intertidal sediments (including sandflat/mudflat), Open coast (including bay), Sedimentary rocks, Subtidal sediments (including sandbank/mudbank)

4.2 Quality and importance

ARTICLE 4.1 QUALIFICATION (79/409/EEC)

Over winter the area regularly supports:

<i>Gavia stellata</i> (North-western Europe - wintering)	5.4% of the GB population 5 year peak mean 2001/02 - 2006/07 (nb Insufficient data recorded for period 2003/2004)
---	--

ARTICLE 4.2 QUALIFICATION (79/409/EEC)

Over winter the area regularly supports:

<i>Melanitta nigra</i> (Western Siberia/Western & Northern Europe/North-western Africa)	3.4% of the population 5 year peak mean 2001/02 - 2006/07 (nb Insufficient data recorded for period 2003/2004)
--	---

ARTICLE 4.2 QUALIFICATION (79/409/EEC): AN INTERNATIONALLY IMPORTANT ASSEMBLAGE OF BIRDS

In the non-breeding season the area regularly supports:

55597 waterfowl 5 year peak mean 2001/02 - 2006/07 (nb Insufficient data recorded for period 2003/2004)

Including:

Gavia stellata , *Melanitta nigra* .

4.3 Vulnerability

The site is subject to commercial fishing. The sandbanks of Liverpool Bay support the nursery and feeding grounds for many fish species. The distribution and concentrations of red-throated divers will at least partly be determined by the presence, abundance, and availability of their prey species. The site holds various fish of commercial importance, and extraction of the red-throated diver's main fish prey, as either target and/or by-catch species, or through recreational fishing could impact the population. Entanglement in static fishing nets is an important cause of death for red-throated divers in the UK waters however the extent of this impact in Liverpool Bay is not known.

Commercial and recreational fishing could directly affect both the food source and feeding grounds used by common scoters and in addition a number of ports undertake navigational dredging and disposal both in, and adjacent to, the site. Dredging for bivalves has been shown to have significant negative effects on their benthic habitat.

Red throated divers and common scoters are sensitive to non physical, (noise and visual) disturbance by both commercial and recreational activities, for example disturbance by moving vessels - the larger the vessel, the greater disturbance distance expected.

Aggregate extraction presents some risks of disturbance and also changes to sediment structures which may, in particular, impact on common scoter through changes to their benthic feeding grounds. However, aggregate extraction tends to be temporary and localised and so is not anticipated that moderate and targeted extraction will present a significant risk to either of the qualifying species.

Liverpool Bay is an attractive location for the off-shore renewal energy industry and there is evidence that red-throated divers and common scoters are displaced by the presence of the turbines and the associated activities of construction and maintenance vessels. A number of wind farms in the site are currently in operation, under construction or consented.

There are a number of areas along the coast where marine tourism and leisure activities are common, with existing marinas and partially completed and proposed marina developments. As a result of these leisure users of the area, in combination with the whole suite of commercial activities, including those outlined above, the site is a very active boating and shipping site. However, most vessel activity is restricted to well-established areas which the birds already tend to avoid.

5. Site protection status and relation with CORINE biotopes:

5.1 Designation types at national and regional level

Code	% cover
UK04 (SSSI/ASSI)	0.05

NATURA 2000

STANDARD DATA FORM

FOR SPECIAL PROTECTION AREAS (SPA)
FOR SITES ELIGIBLE FOR IDENTIFICATION AS SITES OF COMMUNITY IMPORTANCE (SCI)
AND
FOR SPECIAL AREAS OF CONSERVATION (SAC)

1. Site identification:

1.1 Type 1.2 Site code

1.3 Compilation date 1.4 Update

1.5 Relationship with other Natura 2000 sites

1.6 Respondent(s)

1.7 Site name

1.8 Site indication and designation classification dates

date site proposed as eligible as SCI	201008
date confirmed as SCI	
date site classified as SPA	
date site designated as SAC	

2. Site location:

2.1 Site centre location

longitude	latitude
03 12 14 W	53 51 50 N

2.2 Site area (ha) 2.3 Site length (km)

2.5 Administrative region

NUTS code	Region name	% cover
0	Marine	100.00%

2.6 Biogeographic region

Alpine
 Atlantic
 Boreal
 Continental
 Macaronesia
 Mediterranean

3. Ecological information:

3.1 Annex I habitats

Habitat types present on the site and the site assessment for them:

Annex I habitat	% cover	Representativity	Relative surface	Conservation status	Global assessment
Sandbanks which are slightly covered by sea water all the time	84.16	A	C	A	A

Reefs	2.9	B	C	B	B
-------	-----	---	---	---	---

3.2 Annex II species

Species name	Population			Site assessment			
	Resident	Migratory		Population	Conservation	Isolation	Global
		Breed	Winter				

4. Site description

4.1 General site character

Habitat classes	% cover
Marine areas. Sea inlets	100.0
Tidal rivers. Estuaries. Mud flats. Sand flats. Lagoons (including saltwork basins)	
Salt marshes. Salt pastures. Salt steppes	
Coastal sand dunes. Sand beaches. Machair	
Shingle. Sea cliffs. Islets	
Inland water bodies (standing water, running water)	
Bogs. Marshes. Water fringed vegetation. Fens	
Heath. Scrub. Maquis and garrigue. Phygrana	
Dry grassland. Steppes	
Humid grassland. Mesophile grassland	
Alpine and sub-alpine grassland	
Improved grassland	
Other arable land	
Broad-leaved deciduous woodland	
Coniferous woodland	
Evergreen woodland	
Mixed woodland	
Non-forest areas cultivated with woody plants (including orchards, groves, vineyards, dehesas)	
Inland rocks. Scree. Sands. Permanent snow and ice	
Other land (including towns, villages, roads, waste places, mines, industrial sites)	
Total habitat cover	100%

4.1 Other site characteristics

Physical site characteristics:

The Shell Flat component of the Shell Flat and Lune Deep SAC is a crescent shaped sandbank comprising a range of mud and sand sediments. Shell Flat has a typical sandy substrate biological community. Shell Flat is the only sandbank feature identified within the outer Shell Flat site and is known to provide important habitat for commercial fish species and bird populations.

Lune Deep and the area immediately to the north support mixed faunal turf communities over a cobble/rock substrate. These areas provide habitat for erect hydroids and bryozoans with some areas having erect sponges which form the biotope *Flustra foliacea* and *Haliclona oculata* with a rich faunal turf on tide-swept circalittoral mixed substrata. The reef habitat present in the area represents a good example of boulder and bedrock reef, with the largest proportions of rock found along the unique kettle hole feature known as Lune Deep. The northern edges of Lune Deep are characterised by heavily silted cobble and boulder slopes, subject to strong tidal currents with a dense hydroid and bryozoan turf. This unique enclosed deep hole provides a contrasting habitat to the surrounding muddy communities of the Eastern Irish Mudbelt. Data from a 2004 survey show that the northern flanks of Lune Deep are composed of exposed bedrock with a rugged seabed physiography. In contrast, the southern flank consists of a smooth seabed which is a sink for muddy sands.

4.2 Quality and importance

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

- for which this is considered to be one of the best areas in the United Kingdom.
- Reefs
- for which this is considered to be one of the best areas in the United Kingdom.

4.3 Vulnerability

Operations likely to affect the habitats are:

- i) Physical loss by smothering;
- ii) Physical damage by siltation or abrasion;
- iii) Toxic contamination by introduction of synthetic or non-synthetic compounds;
- iv) Non-toxic contamination from changes in nutrient loading, organic loading, or changes in turbidity;
- v) Changes in salinity;
- vi) Biological disturbance by Introduction of microbial pathogens, introduction of non-native species and translocation, or selective extraction of species.

5. Site protection status and relation with CORINE biotopes:

5.1 Designation types at national and regional level

Code	% cover
UK00 (N/A)	100.0

File ref:

County: Lancashire **Site Name:** Wyre Estuary

District: Wyre, Fylde

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act, 1981, as amended.

Local Planning Authority: Fylde Borough Council
Wyre Borough Council

National Grid Reference: SD 350440 **Area:** 1,488.03 (ha) 3,675.43 (ac)

Ordnance Survey Sheet 1:50 000 102 **1:10 000** SD 33 NE
SD 34 NE
SD 34 NW
SD 34 SE
SD 34 SW
SD 35 SW

Date Notified (Under 1949 Act): – **Date of Last Revision:** –

Date Notified (Under 1981 Act): 27 January 1995 **Date of Last Revision:** –

Other Information:

1. The site forms part of 'Morecambe Bay (including Wyre-Lune)' listed in 'A Nature Conservation Review', edited by D. A. Ratcliffe (1977), Cambridge University Press.
2. The site is adjacent to the Lune Estuary Site of Special Scientific Interest and incorporates Barnaby Sands Marsh and Burrows Marsh SSSIs.
3. The site is an integral part of the Morecambe Bay complex of estuaries and shore which collectively meet the criteria for inclusion within the Morecambe Bay Wetland of International Importance under the Ramsar Convention, and as a Special Protection Area under Article 4 of the European Community Directive 79/409/EEC on the Conservation of Wild Birds.

Description and Reasons for Notification:

The Wyre Estuary, lying just south of Lune Estuary is an integral part of Morecambe Bay, one of the two largest areas of intertidal estuarine flats in Britain (the other being the Wash). The whole estuarine complex is of international significance for wintering wading birds and of national significance for wintering wildfowl. The Wyre in its own right is of national importance for wintering and passage black-tailed godwit, wintering turnstone and for wintering teal in times of hard weather. The Wyre Estuary, including those parts within Barnaby Sands Marsh and Burrows Marsh Sites of Special

Scientific Interest, supports the largest area of ungrazed saltmarsh in North West England. The transitions from low to upper marsh are well developed and there are extensive transitions to freshwater swamp communities above high water mark.

The most extensive areas of saltmarsh are found on the east side of the estuary between Barnaby Sands and Staynall, on the west side north of Stannah and on the north side upstream of Shard Bridge. Much of the latter has recently developed on actively accreting mud.

The seaward edge of the saltmarsh is dominated by those species specialised to colonising bare mud and withstanding frequent tidal inundation – the glassworts *salicornia* spp., annual sea-blite *Suaeda maritima* and common saltmarsh-grass *Puccinellia maritima*. Common cord-grass *Spartina anglica* is abundant on some of the marshes but appears to be declining. Higher up the marshes there are extensive areas of saltmarsh communities characterised by grazing-sensitive species. The Wyre supports the largest area in Lancashire of saltmarsh dominated by sea-purslane *Halimione portulacoides* and also the largest area of a mixed community distinctive for the presence of common sea-lavender *Limonium vulgare*, sea plantain *Plantago maritima* and sea arrowgrass *Triglochin maritima*. The nationally scarce lax-flowered sea-lavender *Limonium humile* is also present. Most of the sea-purslane dominated saltmarsh is downstream of Shard Bridge. Upstream, especially on the north side, there are extensive areas dominated by sea aster *Aster tripolium*.

On the upper saltmarsh there is a mixture of communities with species typical of a less saline influence. Saltmarsh rush *Juncus gerardi*, sea rush *Juncus maritimus*, red fescue *Festuca rubra* and spear-leaved orache *Atriplex prostrata* are all present and, locally, there is long-bracted sedge *Carex extensa*. Of particular interest are the extensive transitions to brackish or freshwater habitats on the landward side. Here swamp is the dominant community with common reed *Phragmites australis* or sea club-rush *Scirpus maritimus*. In places the landward transition is to sea couch *Elymus pycnanthus*. Other transition species present include hemlock water-dropwort *Oenanthe crocata* and parsley water-dropwort *O. lachenalii*.

Ornithologically the Wyre Estuary is an integral part of the Morecambe Bay–Lune–Wyre system, the second most important intertidal area in Britain after the Wash for wintering and passage wading birds. The Wyre is nationally important in its own right for wintering and passage black-tailed godwit and wintering turnstone (numbers exceeding 1% of the British population). In spring and autumn the estuary regularly supports 200 black-tailed godwit and during the winter months about 100 feed and roost in the estuary. Peak numbers of turnstone feeding in the estuary have in recent years averaged at 640.

The Wyre is also known to be an important hard weather roost for teal. Large numbers of lapwing and golden plover use the estuary for roosting at low tide. Numbers of the former have in some years approached 1% of the UK population.

Movements of roosting and feeding birds within the Wyre and between this and other estuaries are complex with different parts of the estuary being important for birds at different stages of the tide. The major high tide roost is in Armhill with smaller ones at Stannah, Burrows Marsh, Barnaby Sands and Knott End Skears. On spring tides birds are displaced from the smaller roosts to Armhill which, on occasions, can hold over one thousand birds. Along with black-tailed godwit, turnstone, lapwing and golden plover, other wading birds which regularly use the estuary include oystercatcher, redshank and dunlin. The oystercatchers and turnstones feed at the mouth of the estuary on the rocky skears at Rossall Point and Knott End. Golden plover and lapwing roost at low tide around the upstream of Shard Bridge, the former feeding on the Lune estuary to the north at high tide. Waders roosting on the Wyre may be using other parts of the Morecambe Bay complex at low tide.

County: Lancashire **Site Name:** Lune Estuary
District: Wyre, Lancaster
Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act, 1981.
Local Planning Authority: Lancaster City Council
Wyre Borough Council
National Grid Reference: SD 395550 **Area:** 6,978.0 (ha) 17,242.6 (ac)

Ordnance Survey Sheet 1:50 000 97, 102 **1:10 000** SD 46 SW, SE
SD 45 SW, SE,
NW, NE
SD 44 NW
SD 35 NW, SE,
SW.
SD 34 NW, NE

Date Notified (Under 1949 Act): 1966 **Date of Last Revision:** 1979
Date Notified (Under 1981 Act): 1990 **Date of Last Revision:** 1990

Other Information:

1. This site is listed in 'A Nature Conservation Review', edited by D. A. Ratcliffe (1977), Cambridge University Press.
2. The site includes the Wyre–Lune Sanctuary, a National Wildfowl Refuge made a statutory bird sanctuary by the Wild Birds (Wyre–Lune Sanctuary) Order, 1963 under the Protection of Birds Act, 1954. By virtue of the interpretation Act, 1978 the Order remains in force.
3. Boundary revised on re-notification by a partial deletion and a minor extension. Cockerham Marsh, formerly part of the Lune Estuary SSSI, has been notified as a separate SSSI.

Reasons for Notification:

The Lune Estuary is situated on the coast of Lancashire extending from Heysham in the north and the Wyre Estuary in the south inland to the outskirts of Lancaster. It forms part of the Morecambe Bay intertidal system and includes extensive sand/silt flats together with saltmarsh in the form of a number of discontinuous saltings fringing the estuary. As part of Morecambe Bay, the site forms a major link

in the chain of estuaries along the west coast of Britain used by birds on migration between the breeding grounds in the far north, and the wintering grounds further south and is of international importance for the passage and wintering waterfowl it supports. A large part of the estuary, between Knott End and Cockersands Point, is covered by the Wyre–Lune Sanctuary which provides a protected roost for wintering pink-footed geese. Some of the saltmarshes are of interest for their breeding bird populations and collectively support a variety of plant communities and a number of uncommon plant species.

The mud-flats are exposed for considerable periods between tides and are rich in invertebrates. They provide extensive feeding grounds for waders and for many of the wildfowl, especially shelduck which depend on the intertidal zone almost entirely for their diet of invertebrates. The sandbanks also provided important low-tide roosting sites for pink-footed geese and other waterfowl. The estuary is fringed by a series of saltmarshes which provide roosting sites for waders at high tide and support large numbers of wildfowl, such as mallard, wigeon, shelduck and pink-footed geese.

As a whole the site regularly supports internationally important numbers of wintering oystercatcher (11,650), grey plover (1,350), turnstone (850), knot (18,500), and pink-footed geese (8,700), and nationally important numbers of curlew (920), redshank (1,370) and dunlin (6,700). The total numbers of wintering waders are also of international importance with numbers regularly exceeding the criterion of 20,000 (with average peak winter counts of 26,500 waders for the years 1983–1987). In spring and autumn the estuary provides an important staging post for sanderling on passage, and has supported up to 3,430 birds with numbers well above the qualifying levels for international importance. Spring numbers of ringed plover are regularly in excess of 670, several times the qualifying level for national importance, and passage numbers of dunlin (up to 6,300+) also exceed this criterion. The breeding bird communities of the saltmarsh are also significant and of particular note is a nationally important common tern colony on Colloway Marsh.

The saltmarshes themselves are mostly grazed by sheep or cattle producing, on the upper levels, a dense fine sward dominated by perennial grasses such as common saltmarsh grass, red fescue and creeping bent, accompanied by other salt-tolerant plants (halophytes) such as sea arrow-grass, thrift, sea milkwort and sea plantain. The marshes are dissected by irregular creeks or channels along the edges of which (where they are protected from grazing) such typical plants as sea aster, sea purslane and annual sea-blite are found. Cordgrass *Spartina anglica* occurs in patches on the seaward edge of most of the saltmarshes and forms dense swards dominating the marshes near Sunderland Point and from Glasson to Cockersands Point. The transition from saline to freshwater conditions is best shown on Middleton Marsh where the typical saltmarsh zonation is apparent. Here the outer edge of the marsh is typified by the pioneer species glasswort *Salicornia europaea* and occasional clumps of cordgrass *Spartina anglica*. The mid-marsh zone is dominated by creeping bent, thrift and sea plantain which grades into a distinct zone of sea rush *Juncus maritimus*. Above this a brackish marsh supports such non-halophytic species as hemlock water-dropwort *Oenanthe crocata*, parsley water-dropwort *Oenanthe lachenalii* and toad rush *Juncus bufonius*. The sands at the northern extremity of this marsh are notable for the occurrence of two nationally scarce plants, the sand leek *Allium scorodoprasum* and the sea radish *Raphanus maritimus*. Plants which are particularly sensitive to grazing, such as the common sea-lavender *Limonium vulgare*, the rarer lax-flowered sea-lavender *Limonium humile* and sea wormwood *Artemisia maritima* have survived on a small area of ungrazed saltmarsh at Conder Green which supports the widest variety of plants of all the saltmarshes within the estuary, and is one of only three locations in Lancashire where these two sea-lavenders occur together, the others being Burrows Marsh SSSI and Barnaby Sands Marsh SSSI.

County: Lancashire **Site Name:** Winmarleigh Moss
District: Lancaster, Wyre
Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act, 1981.
Local Planning Authority: Lancaster City Council
Wyre Borough Council

National Grid Reference: SD 447480 **Area:** 89.96 (ha) 222.29 (ac)

Ordnance Survey Sheet 1:50 000 102 **1:10 000** SD 44 NW, NE

Date Notified (Under 1949 Act): 1979 **Date of Last Revision:** -

Date Notified (Under 1981 Act): 1984 **Date of Last Revision:** 1991

Other Information:

The site boundary has been amended by an extension at the 1991 revision.

Description and Reasons for Notification:

Winmarleigh Moss is situated 5 km north-west of Garstang, at an altitude of 9 m AOD and is important as the largest area of lowland raised mire remaining in Lancashire. This habitat was formerly extensive on the coastal plains of Lancashire but is now rare, both within the county and nationally, due to peat extraction, agricultural reclamation and afforestation. The main vegetation types are heather and purple moor-grass dominated mire over deep peat, birch scrub and birch woodland. The site also supports a number of rare insect species.

Signs of former peat extraction exist in the form of outlines of peat cutting hollows and the system of grips (drains) but 2-3m depth of peat remains, the top layer of which is poorly humified. This has favoured regeneration and the survival of the characteristic mossland plants and animals, and although the effects of both internal and peripheral drains can be seen there is good potential for restoration of an actively growing raised mire.

The main body of the moss is dominated either by purple moor-grass *Molinia caerulea* or heather *Calluna vulgaris*, sometimes intermixed. In the wetter areas heather is commonly co-dominant with cross-leaved heath *Erica tetralix* and haretail cottongrass *Eriophorum vaginatum* with common cottongrass *Eriophorum angustifolium* occurring locally. Sphagnum (bogmoss) is widespread, particularly in the base of the grips, with the commonest species being *S. papillosum*, *S. subnitens*, *S. recurvum* and *S. tenellum*. Cranberry *Vaccinium oxycoccus* grows on the Sphagnum hummocks and lawns and is also widespread.

Winmarleigh Moss (cont...)

Another plant associated with Sphagnum, round-leaved sundew *Drosera rotundifolia*, is scattered throughout the site, as is bog myrtle *Myrica gale*. Bog rosemary *Andromeda polifolia*, a nationally scarce species, occurs throughout the site but is more common in the southern part of the SSSI, where it sometimes forms large patches.

Drainage associated with peat cutting and the surrounding agricultural ditches has led to the drying out of the edges of the moss and subsequent encroachment of birch scrub. In places this has developed into mature birch woodland with an understorey of bramble *Rubus fruticosus* and broad buckler-fern *Dryopteris dilatata*.

Crawley's Dyke, an ancient boundary ditch, crosses the centre of the site. In places the growth of vegetation within it has blocked the flow of water allowing pools to develop and providing a breeding place for dragonflies and other insects including the local black darter dragonfly.

Winmarleigh Moss is also important for the range of invertebrates it supports. These include over 90 species of butterflies and moths, several of which are nationally rare, and 40 species of Diptera (flies). This is the only Lancashire site for the rare bog bush cricket and the moss holds the best populations in the county of the uncommon large heath butterfly.

Some of the adjacent agricultural grassland has been included within the site for hydrological reasons.