



**Arnside & Silverdale  
Area of Outstanding Natural Beauty  
Management Plan 2019-2024**

**Habitats Regulations Assessment Screening**

Prepared by the Arnside & Silverdale AONB Partnership, April 2019

# **Arnside & Silverdale Area of Outstanding Natural Beauty (AONB)**

## **Habitats Regulations Assessment Screening of the**

### **Arnside & Silverdale AONB Management Plan 2019 – 24**

**(April 2019)**

## **1 Introduction**

### **1.1 Background**

The Arnside & Silverdale AONB Management Plan 2014 – 2019 was published in March 2014 by the AONB Partnership on behalf of the four responsible local authorities: Cumbria County Council, Lancashire County Council, Lancaster City Council and South Lakeland District Council.

Under Section 89 of the Countryside and Rights of Way (CRoW) Act 2000, the relevant local authorities must review the Management Plan within five years of the date of publication. The AONB Partnership Executive Committee is undertaking the Review on behalf of the four Partner Local Authorities

The AONB Management Plan is subject to a Habitats Regulations Assessment (HRA) under European Directive (92/43/EEC) to establish that its proposals will not have a significant impact on any European sites. An HRA Screening Report<sup>1</sup> was published alongside the current adopted Management Plan in 2014, which concluded that the Plan would not have any significant effects on any European sites. This report covers the assessment of the revised Arnside & Silverdale AONB Management Plan for 2019 – 24.

The AONB Management Plan is also subject to a Strategic Environmental Assessment (SEA) in accordance with European Directive 2001/42/EC and the Environmental Assessment of Plans and Programmes Regulations 2004. SEA and HRA are separate assessments. However, the two are complimentary and contribute to the AONB management plan process, with all three exercises proceeding jointly and in an iterative way.

### **1.2 Habitats Regulations Assessment (HRA)**

The Habitats Directive (Article 6(3) and (4)) requires plans or projects to be assessed before they can be adopted to ensure that they have no significant environmental effect on sites of European interest. The requirements of the Habitats Directive (92/43/EEC) on the Conservation of Natural Habitats and Wild Flora and Fauna are transposed into English and Welsh law by means of the Conservation of Habitats and Species Regulations 2017<sup>2</sup> (Habitats Regulations).

The Habitats Regulations require that HRA is applied to all statutory land use plans in England and Wales. The overarching aim of the HRA is to determine, in view of a site's conservation objectives, whether a plan, either in isolation and/or in combination with other plans, would have a significant adverse effect on the European site. This ensures that protection of the integrity of European sites is a part of the planning process at a regional and local level. The HRA will take into account with the People Over Wind judgement (Case C-323/17 People Over Wind v Coillte Teoranta).

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<sup>1</sup> Habitats Regulations Assessment for the Arnside & Silverdale AONB Delivery Plan, Graeme Skelcher, 2014

The Directive establishes a network of internationally important sites designated for their ecological status. These are referred to as Natura 2000 sites or European Sites, and include Special Areas of Conservation (SAC), designated for their habitats and/or species of European importance, and Special Protection Areas (SPA), classified under Directive 2009/147/EC on the Conservation of Wild Birds (the codified version of Directive 79/409/EEC as amended) for rare, vulnerable and regularly occurring migratory bird species and internationally important wetlands. It is Government policy that Ramsar sites (which support internationally important wetland habitats and are listed under the Convention on Wetlands of International Importance [Ramsar Convention]) are included within the HRA process as required by the Regulations.

Draft guidance for HRA 'Planning for the Protection of European Sites: Appropriate Assessment' was published by the Government (DCLG, 2006). The AA process prescribed in the Habitats Directive in Article 6(3) and (4) is summarized into three main tasks:

1. Likely significant effects test (HRA task 1). This is essentially a screening process and will identify the likely impacts of the plan upon European designated sites, either alone or in-combination with other plans or projects and consider whether the impacts are likely to be significant.
2. Appropriate assessment and ascertaining the effect on site integrity (HRA test 2). This stage will be completed if, during the screening, any plan policies are considered likely to cause significant effects on a European site or if the effects are uncertain. The AA must then look at any potential mitigation measures, to determine if they can reduce the likelihood, nature, scale, and duration of the effect to a lower level. The appropriate assessment should seek mitigation measures that are capable of implementation and will reduce the impact to the lowest level possible. Any residual effects after applying mitigation should also be considered alone and in-combination.
3. Assessment of alternative solutions and imperative reasons of over-riding public interest (IROPI). An assessment of alternative solutions or where no alternative solutions exist and where adverse impacts remain.

### **1.3 HRA of the Arnside & Silverdale AONB Management Plan**

The approach taken for the HRA of the Arnside & Silverdale AONB Management Plan review follows the above tasks. The specific actions undertaken for Task 1 is set out below.

1. Identify European sites within and outside the plan area potentially affected.
2. Produce screening assessment based on evidence gathered and consult statutory nature conservation body on findings.
3. If effects are judged likely or uncertainty exists – the precautionary principle applies proceed to Task 2.
4. Examine other plans and programmes that could contribute (cumulatively) to identified impacts/effects.
5. Task 2 – Appropriate Assessment. Examine the conservation objectives of each interest feature of the European site(s) potentially affected.
6. Analyse the objectives and the changes to environmental conditions that may occur as a result of the plan. Consider the extent of the effects on European sites (magnitude, duration, and location) based on best available information.

As noted in section 1.1 a screening exercise was carried out in 2013/14 for the previously adopted Management Plan. The European sites scoped in the previous assessment are still considered appropriate for the further screening of this Management Plan Review.

Other key relevant plans or projects are listed in the Appendix.

## **1.4 Consultation**

The Habitats Regulations require the plan making/competent authority to consult the appropriate nature conservation statutory body, in this case Natural England (NE). The Habitats Regulations leave consultation with other bodies and the public to the discretion of the plan making authority. Therefore, in addition to the statutory consultation undertaken with the appropriate nature conservation body, the HRA Screening Report was available for wider public consultation alongside the Draft AONB Management Plan.

Natural England concurred with the conclusions of the HRA and had no additional comments to make. Following the public consultation a few minor changes were made to the Management Plan objectives. Natural England are satisfied that the minor changes do not affect the overall conclusion of the HRA.

## **2 Identification of European sites**

Within the Arnside & Silverdale Area of Outstanding Natural Beauty (AONB), six sites have been designated under European directive for their habitat, species or bird interest (1979 Birds Directive and 1992 Habitats Directive), which together cover 48% of the total AONB area.

These sites are:

- Morecambe Bay Pavements Special Area of Conservation (SAC)
- Morecambe Bay SAC
- Morecambe Bay and Duddon Estuary Special Protection Area (SPA)
- Leighton Moss SPA
- Morecambe Bay Ramsar Site
- Leighton Moss Ramsar Site

Only the Leighton Moss sites lie entirely within the AONB. Both the Leighton Moss SPA and Ramsar site cover exactly the same area of ground - almost 320 ha of reedbed and wetland. Both designations are for the site's bird interest, though the latter has slightly wider criteria with additional species listed as qualifying features.

The extent of the three Morecambe Bay sites also overlap and all cover the entire intertidal area of the AONB. Land within the AONB represents a relatively small proportion of these sites, however, with each extending considerably beyond the boundaries of the AONB around the Bay. The SAC encompasses the entire Bay between Walney Island and Fleetwood as well as the Duddon Estuary, while the Ramsar site covers only the intertidal sandflats and saltmarshes of Morecambe Bay. The Morecambe Bay SPA was extended in 2017 to include the Duddon Estuary.

The Morecambe Bay SAC is designated for its important shallow sea, intertidal and coastal habitats and species, while the SPA and Ramsar designations cover the highly significant bird interest. Morecambe Bay Pavements SAC comprises a number of whole or part Sites of Special Scientific Interest (SSSI); eight of which lie within the AONB and a further four lie outside. These areas are designated for important habitats and species associated with their limestone features. Details of the qualifying features for each site can be found in the Appendix.

## **3 Screening Assessment**

Assessments of each of the AONB Management Plan objectives are set out in the table below. The Management Plan states that 'All objectives are to be delivered in a way that supports the AONB

purpose and causes no harm to Natura 2000 sites'. This caveat has been taken into account in the assessments.

#### **4 HRA Conclusions**

The objectives within the AONB Management Plan 2019 – 24 are seeking to help achieve the purpose of the AONB designation, which is the conservation and enhancement of its natural beauty.

This HRA Screening has considered the potential effects of the AONB Management Plan for European sites within the AONB. None of the objectives are considered to have significant effects on European sites alone or in combination with other plans relevant to the AONB area.

It is therefore concluded that the AONB Management Plan will not have any significant effects on the European sites identified in this HRA Report, either alone or in combination.

**Table 1 Screening of objectives of the AONB Management Plan 2019 - 24**

Management Plan Objectives	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay and Duddon Estuary SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
<b>Outstanding landscape rich in natural and cultural heritage</b>						
<b>Landscape and seascape</b>						
1. Conserve, enhance and improve understanding of the natural beauty, landscape and seascape character, and special qualities of Arnside & Silverdale AONB	No Likely Significant Effect (NLSE)					
<b>Natural capital and ecosystem services</b>						
2. Conserve, enhance and improve understanding of the natural capital of the AONB and the range and value of the public benefits and ecosystem services that it provides to society	NLSE					
<b>Geodiversity</b>						
3. Conserve and improve understanding of the geodiversity of the AONB	NLSE – Conserving geodiversity could result in likely significant effect but objective will be delivered without causing harm to the European designated sites – caveat above.					
<b>Habitats and species</b>						
4. Conserve, enhance and restore the AONB's characteristic mosaic of habitats and improve their connectivity, take targeted action to conserve key species and improve understanding of the biodiversity of the AONB	NLSE – Improving habitats could have a likely significant effect but objective will be delivered without causing harm to the European designated sites – caveat above.					
<b>Water environment</b>						
5. Improve water quality and condition of watercourses and waterbodies in the AONB and support natural flood management	NLSE – Improving watercourses could result in likely significant effect but objective will be delivered without causing harm to the European designated sites – caveat above.					

Management Plan Objectives	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay and Duddon Estuary SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
<b>Historic and cultural heritage</b>						
6. Conserve, restore and improve understanding of the historic environment of the AONB including heritage assets, historic landscape character and cultural heritage	NLSE –restoring the historic environment could result in likely significant effect but objective will be delivered without causing harm to the European designated sites – caveat above.					
<b>Development management</b>						
7. Implement a landscape capacity-led approach to development planning and management, which conserves and enhances the natural beauty, landscape, seascape and special qualities of the AONB and its setting	NLSE					
<b>Vibrant and sustainable communities</b>						
<b>Land management and rural livelihoods</b>						
8. Support landowners and managers to sustainably manage the landscape in ways that conserve and enhance the special qualities of the AONB and deliver a range of environmental, community and local economic benefits, in particular by encouraging farming, land- and woodland management practices that enhance natural beauty and landscape character	NLSE					
9. Ensure that the visitor economy is environmentally sustainable and contributes to the conservation and	NLSE					

Management Plan Objectives	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay and Duddon Estuary SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
enhancement of the area's special qualities, and enable visitors to have high quality experiences of nature, culture and quiet recreation						
<b>Affordable housing and rural services</b>						
10. Support delivery of affordable housing and services to help meet local community needs and environmentally sustainable local economic activity that conserves and enhances the special qualities of the AONB	NLSE –delivering affordable housing could result in likely significant effect but objective will be delivered without causing harm to the European designated sites – caveat above.					
<b>Community engagement and volunteering</b>						
11. Engage local communities in conserving and enhancing the AONB and encourage active involvement through volunteering	NLSE – volunteering could result in likely significant effect but objective will be delivered without causing harm to the European designated sites – caveat above.					
<b>A strong connection between people and the landscape</b>						
<b>Enjoyment and understanding</b>						
12. Provide high quality information, events and activities to enable people to enjoy, learn about and celebrate the AONB's special qualities in a sustainable way	NLSE					
<b>Access and recreation</b>						
13. Maintain and improve access to the coast and countryside in a sustainable way for a diverse range of people and promote responsible, safe and quiet recreation	NLSE – access and recreation could result in likely significant effect but objective will be delivered without causing harm to the European designated sites – caveat above.					



Management Plan Objectives	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay and Duddon Estuary SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
<b>Health and wellbeing</b>						
14. Provide opportunities for people to improve their health and wellbeing by connecting with nature, culture and the landscape	<b>NLSE</b> –encouraging people to access the countryside could result in likely significant effect but objective will be delivered without causing harm to the European designated sites – caveat above.					

## **Appendix 1**

### **European sites**

# Morecambe Bay Pavements SAC

(information obtained from JNCC website 'UK Protected Sites' <http://jncc.defra.gov.uk/page-4> (accessed 07/08/2018) and the Natural England website 'Conservation objectives for European Sites: North West' <http://publications.naturalengland.org.uk/category/4582026845880320> (accessed 07/08/2018))

**Unitary Authority:** Cumbria, Lancashire

**Grid reference:** SD 440 869

**Area:** 2609.69 ha

## 1. General site character

Inland water bodies (standing water, running water) (0.4%)

Bogs. Marshes. Water fringed vegetation. Fens (0.6%)

Heath, Scrub, Maquis and Garrigue, *Phygrana* (13.5%)

Dry grassland, Steppes (38.6%)

Broad-leaved deciduous woodland (24.4%)

Coniferous woodland (2.5%)

Inland rocks. Scree, Sands. Permanent snow and ice (20%)

## Component SSSIs:

**Underlaid Wood** (part)

**Marble Quarry and Hale Fell**

**Gait Barrows**

**Thrang Wood**

**Hawes Water**

**Middlebarrow** (part)

**Thrang End and Yealand Hall Allotment**

**Cringlebarrow and Deepdale**

**Farleton Knott** (outside A/S AONB)

**Hutton Roof Crag** (outside A/S AONB)

**Scout and Cunswick Scars** (outside A/S AONB)

**Whitbarrow** (outside A/S AONB)

## 2. Qualifying features:

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

#### **3140 Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.**

Hawes Water is a lowland lake in northern England within Morecambe Bay Pavements. It is a lake on a predominantly Carboniferous limestone foundation and has a substrate of deep lacustrine shell-marl. The water is highly calcareous and the lake is fed by springs within it. This site is considered to be the best example of a lowland hard oligo-mesotrophic lake with *Chara* spp. in England, owing to the clarity, low nutrient status and high calcium content of its water. The rare rugged stonewort *Chara rudis* and scarce species *C. aspera*, *C. hispida* and *C. pedunculata* occur here.

#### **5130 *Juniperus communis* formations on heaths or calcareous grasslands**

Morecambe Bay Pavements represents *Juniperus communis* formations on **8240 Limestone pavements** at low to intermediate altitude in north-west England. In contrast to most other areas in northern England, these are ungrazed or grazed at low intensity and have affinities to southern mixed scrub, owing to the presence of species such as wild privet *Ligustrum vulgare* and burnet rose *Rosa pimpinellifolia*. Other stands occur on **6210 semi-natural dry grassland** dominated by blue moor-grass *Sesleria caerulea*.

#### **6210 Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*) (\* important orchid sites)**

Extensive CG9 *Sesleria albicans* – *Galium sternerii* grasslands occur at Morecambe Bay Pavements in north-west England. The grassland, which has an overall northern character, is also rich in southern lowland species, so providing important regional variation distinct from Craven Limestone Complex and Moor House – Upper Teesdale, also in northern England. There is a wide range of structural variation associated with intensity of grazing and the presence of cliffs, scree, and **8240**

**Limestone pavements** on the margins of the grassland stands. There are important transitions to calcareous scrub and **9180 Tilio-Acerion forests**.

#### **8240 Limestone pavements \* Priority feature<sup>3</sup>**

This is one of four sites in northern England representing **Limestone pavements** on Carboniferous limestone. This site provides an example of lowland pavements that range from low to moderate altitudes (up to 274 m). Some of the pavements form woodland clearings that are sheltered and warm up quickly in spring. The pavement flora is here at its most diverse and, where grazing is absent, can be seen at its best because plant growth is not confined to the grikes. Trees and shrubs, including yew *Taxus baccata*, juniper *Juniperus communis*, buckthorn *Rhamnus cathartica*, hazel *Corylus avellana*, small-leaved lime *Tilia cordata* and ash *Fraxinus excelsior*, grow above the pavement surface. Some pavements lie within sheep pasture but are for the most part lightly grazed. Rustyback *Ceterach officinarum* is restricted to pavements that form sheltered woodland clearings. Other ferns occurring on the site include the nationally scarce rigid buckler-fern *Dryopteris submontana*, which is abundant on Hutton Roof Crags, and limestone fern *Gymnocarpium robertianum*. These pavements tend to be rich in herbs, with lily-of-the-valley *Convallaria majalis*, dark-red helleborine *Epipactis atrorubens*, pale St John's-wort *Hypericum montanum*, ploughman's-spikenard *Inula conyzae*, angular Solomon's-seal *Polygonatum odoratum*, wood-sage *Teucrium scorodonia*, lesser meadow-rue *Thalictrum minus* and hairy violet *Viola hirta* achieving their best representation in limestone pavement here. (Limestone pavements).

#### **9180 Tilio-Acerion forests of slopes, screes and ravines \* Priority feature**

Woodland within Morecambe Bay Pavements, along with the nearby Roudsea Wood, represents **Tilio-Acerion forests** on Carboniferous limestone in north-west England. Although close to the northern limit of lime distribution, the ash *Fraxinus excelsior*-dominated woodland around Morecambe Bay contains many patches of small-leaved lime *Tilia cordata*, which survive sometimes with elm *Ulmus* spp., often along outcrop edges. There is a rich assemblage of rare species, including fingered sedge *Carex digitata*, wood fescue *Festuca altissima* and mezereon *Daphne mezereum*. The habitat type occurs here both on **8240 Limestone pavements** and on loose scree and steep slopes.

#### **91J0 Taxus baccata woods of the British Isles \* Priority feature**

Morecambe Bay Pavements is an example of yew **Taxus baccata woods** in north-west England. The site is similar to the nearby Roudsea Wood and Mosses. These yew woods are on the northern Carboniferous limestone and, as in the Wye Valley, yew occurs both as dense groves and as scattered trees in the understorey of ash or ash-elm *Fraxinus-Ulmus* woodland. Yew woodland here represents the development of long-established stands on unstable scree and rocky slopes.

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

**4030 European dry heaths**

**7210 Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae* \* Priority feature**

**91A0 Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles**

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

**1014 Narrow-mouthed whorl snail *Vertigo angustior***

Morecambe Bay Pavements represents **narrow-mouthed whorl snail *Vertigo angustior*** in north-west England, near the northern limit of its range in the UK. Gait Barrows supports strong populations of the species in mossy clint tops of Annex I habitat **8240 Limestone pavements** at transitions to woodland, an unusual habitat for the species.

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

**Not applicable.**

## **3. Conservation Objectives**

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change;

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<sup>3</sup> A subset of the Annex I habitat types are identified as being 'priority' because they are considered to be particularly vulnerable and are mainly, or exclusively, found within the EU.

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;

- ☐ The extent and distribution of qualifying natural habitats and habitats of qualifying species
- ☐ The structure and function (including typical species) of qualifying natural habitats
- ☐ The structure and function of the habitats of qualifying species
- ☐ The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely
- ☐ The populations of qualifying species, and,
- ☐ The distribution of qualifying species within the site.

This should be read in conjunction with the accompanying *Supplementary Advice* document, which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

**Qualifying Features:**

H3140. Hard oligo-mesotrophic waters with benthic vegetation of *Chara* spp.; Calcium-rich nutrient-poor lakes, lochs and pools

H4030. European dry heaths

H5130. *Juniperus communis* formations on heaths or calcareous grasslands

H6210. Semi-natural dry grasslands and scrubland facies: on calcareous substrates (*Festuco-Brometalia*); Dry grasslands and scrublands on chalk or limestone

H7210. Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*; Calcium-rich fen dominated by great fen sedge (saw sedge)\*

H8240. Limestone pavements\*

H9180. *Tilio-Acerion* forests of slopes, screes and ravines; Mixed woodland on base-rich soils associated with rocky slopes\*

H91A0. Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles; Western acidic oak woodland

H91J0. *Taxus baccata* woods of the British Isles; Yew-dominated woodland\*

S1014. *Vertigo angustior*; Narrow-mouthed whorl snail

\* denotes a priority natural habitat or species (supporting explanatory text on following page)

**\* Priority natural habitats or species**

Some of the natural habitats and species listed in the Habitats Directive and for which SACs have been selected are considered to be particular priorities for conservation at a European scale and are subject to special provisions in the Directive and the Habitats Regulations. These priority natural habitats and species are denoted by an asterisk (\*) in Annex I and II of the Directive. The term 'priority' is also used in other contexts, for example with reference to particular habitats or species that are prioritised in UK Biodiversity Action Plans. It is important to note however that these are not necessarily the priority natural habitats or species within the meaning of the Habitats Directive or the Habitats Regulations.

# Morecambe Bay SAC

(information obtained from JNCC website 'UK Protected Sites' <http://jncc.defra.gov.uk/page-4> (accessed 07/08/2018) and the Natural England website 'Conservation objectives for European Sites: North West' <http://publications.naturalengland.org.uk/category/4582026845880320> (accessed 07/08/2018))

**Unitary Authority:** Cumbria, Lancashire

**Grid reference:** SD 440 869

**Area:** 2609.69 ha

## 1. General site character

Marine areas, Sea inlets (99.1%)

Coastal sand dunes, Sand beaches, Machair (0.8%)

Shingle, Sea cliffs, Islets (0.1%)

## Component SSSIs:

**Morecambe Bay**

**Duddon Estuary (part)**

**South Walney and Piel Channel Flats**

**Wyre Estuary**

## 2. Qualifying features:

*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.

### 1140 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 furoid 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**

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 maritimae*)**

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.

### **3. Conservation Objectives**

With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed below), and subject to natural change;

**Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;**

- ☑ **The extent and distribution of qualifying natural habitats and habitats of qualifying species**
- ☑ **The structure and function (including typical species) of qualifying natural habitats**
- ☑ **The structure and function of the habitats of qualifying species**
- ☑ **The supporting processes on which qualifying natural habitats and the habitats of qualifying species rely**
- ☑ **The populations of qualifying species, and,**
- ☑ **The distribution of qualifying species within the site.**

This document should be read in conjunction with the accompanying *Supplementary Advice* document, which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

#### **Qualifying Features:**

H1110. Sandbanks which are slightly covered by sea water all the time; Subtidal sandbanks

H1130. Estuaries

H1140. Mudflats and sandflats not covered by seawater at low tide; Intertidal mudflats and sandflats

H1150. Coastal lagoons\*

H1160. Large shallow inlets and bays

H1170. Reefs

H1220. Perennial vegetation of stony banks; Coastal shingle vegetation outside the reach of waves

H1310. *Salicornia* and other annuals colonising mud and sand; Glasswort and other annuals colonising mud and sand

H1330. Atlantic salt meadows (*Glauco-Puccinellietalia maritima*)

H2110. Embryonic shifting dunes

H2120. Shifting dunes along the shoreline with *Ammophila arenaria* ("white dunes"); Shifting dunes with marram

H2130. Fixed dunes with herbaceous vegetation ("grey dunes"); Dune grassland\*

H2150. Atlantic decalcified fixed dunes (*Calluno-Ulicetea*); Coastal dune heathland\*

H2170. Dunes with *Salix repens* ssp. *argentea* (*Salicion arenariae*); Dunes with creeping willow

H2190. Humid dune slacks

S1166. *Triturus cristatus*; Great crested newt

\* denotes a priority natural habitat or species (supporting explanatory text on following page)

#### **This is a European Marine Site**

This site is a part of the Morecambe Bay European Marine Site. These conservation objectives should be used in conjunction with the Regulation 35 Conservation Advice Package, for further details please contact Natural England's enquiry service at [enquiries@naturalengland.org.uk](mailto:enquiries@naturalengland.org.uk), or by phone on 0845 600 3078, or visit the Natural England website at:

<http://www.naturalengland.org.uk/ourwork/marine/protectandmanage/mpa/europeansites.aspx>

#### **\* Priority natural habitats or species**

Some of the natural habitats and species listed in the Habitats Directive and for which SACs have been selected are considered to be particular priorities for conservation at a European scale and are subject to special provisions in the Directive and the Habitats Regulations. These priority natural habitats and species are denoted by an asterisk (\*) in Annex I and II of the Directive. The term 'priority' is also used in other contexts, for example with reference to particular habitats or species that are prioritised in UK Biodiversity Action Plans.



It is important to note however that these are not necessarily the priority natural habitats or species within the meaning of the Habitats Directive or the Habitats Regulations.

## Morecambe Bay and Duddon Estuary SPA

(information obtained from JNCC website 'UK Protected Sites' <http://jncc.defra.gov.uk/page-4> (accessed 07/08/2018) and the Natural England website 'Conservation objectives for European Sites: North West' <http://publications.naturalengland.org.uk/category/4582026845880320> (accessed 07/08/2018))

**Administrative area:** Cumbria, Lancashire

**Grid reference:** SD 485 750

**Area:** 128.61 ha

### Qualifying species:

SPA site selection guidelines have been applied to the most up to date information for the site. However, this contemporary data reveals that some species are no longer present in qualifying numbers (either through declines or because the relevant threshold has increased). It is not clear whether anthropogenic influences have affected the populations at the site. Defra policy indicates that in these circumstances the feature should be retained until such time as the reasons for the reduction in population can be established. Natural England therefore considers that these species should be retained on the citation, and the level of ambition set out in the conservation objectives for these species maintained, until such time as we have evidence to support the conclusion that declines are a result of natural processes and that the SPA is no longer suitable for these species.

The site qualifies under **Article 4.1** of the Directive (2009/147/EC) as it is used regularly by 1% or more of the Great Britain populations of the following species listed in Annex I in any season:

Species	Season	Count (Period)	% of population
Whooper swan <i>Cygnus Cygnus</i>	Non-breeding	113 individuals (2009/10 – 2013/14) <sup>1</sup>	1.0% of GB population
Little egret <i>Egretta garzetta</i>	Non-breeding	134 individuals (2009/10 – 2013/14) <sup>1</sup>	3.0% of GB population
European golden plover <i>Pluvialis apricaria</i>	Non-breeding	1,900 individuals (Morecambe Bay SPA citation value 1991) <sup>2</sup>	1.0% of GB population (1991)
Bar-tailed Godwit <i>Limosa lapponica</i>	Non-breeding	3,046 individuals (2009/10 – 2013/14) <sup>1</sup>	8.0% of GB population
Ruff <i>Calidris pugnax</i>	Non-breeding	8 individuals (2009/10 – 2013/14) <sup>1</sup>	1.0% of GB population
Mediterranean gull <i>Larus melancephalus</i>	Non-breeding	18 individuals (2009/10 – 2013/14) <sup>1</sup>	1.0% of GB population
Little tern <i>Sternula albifrons</i>	Breeding	84 individuals (2010 – 2014) <sup>3</sup>	2.2% of GB population
Sandwich tern <i>Sterna sandvicensis</i>	Breeding	1,608 individuals (1988 - 1992) <sup>4</sup>	5.7% of GB population (1992)

The site qualifies under **Article 4.2** of the Directive (79/409/EEC) as it is used regularly by 1% or more of the biogeographical populations of the following regularly occurring migratory species (other than those listed in Annex I) in any season:

Species	Season	Count (Period)	% of population
Pink-footed goose <i>Anser brachyrhynchus</i>	Non-breeding	15,648 individuals (2009/10 – 2013/14) <sup>6</sup>	4.5% of biogeographic population
Common shelduck <i>Tadorna tadorna</i>	Non-breeding	5,878 individuals (2009/10 – 2013/14) <sup>1</sup>	2.0% of biogeographic population
Northern Pintail <i>Anas acuta</i>	Non-breeding	2,498 individuals (2009/10 – 2013/14) <sup>1</sup>	4.2% of biogeographic population
Eurasian oystercatcher <i>Haematopus ostralegus</i>	Non-breeding	55,888 individuals (2009/10 – 2013/14) <sup>1</sup>	6.8% of biogeographic population

Grey plover <i>Pluvialis squatarola</i>	Non-breeding	2,000 individuals (Morecambe Bay SPA citation value 1991) <sup>7</sup>	1.0% of biogeographic population (1991)
Common ringed plover <i>Charadrius hiaticula</i>	Non-breeding	1,049 individuals (2009/10 – 2013/14) <sup>1</sup>	1.4% of biogeographic population
Eurasian curlew <i>Numenius arquata</i>	Non-breeding	12,209 individuals (2009/10 – 2013/14) <sup>1</sup>	1.5% of biogeographic population
Black-tailed godwit <i>Limosa limosa</i>	Non-breeding	2,413 individuals (2009/10 – 2013/14) <sup>1</sup>	4.0% of biogeographic population
Ruddy turnstone <i>Arenaria interpres</i>	Non-breeding	1,359 individuals (2009/10 – 2013/14) <sup>1</sup>	1.0% of biogeographic population
Red knot <i>Calidris canutus</i>	Non-breeding	32,739 individuals (2009/10 – 2013/14) <sup>1</sup>	7.3% of biogeographic population
Sanderling <i>Calidris alba</i>	Non-breeding	3,600 individuals (Morecambe Bay SPA citation value 1991) <sup>8</sup>	3.0% of biogeographic population (1991)
Dunlin <i>Calidris alpina alpina</i>	Non-breeding	26,982 individuals (2009/10 – 2013/14) <sup>1</sup>	2.0% of biogeographic population
Common redshank <i>Tringa totanus</i>	Non-breeding	11,133 individuals (2009/10 – 2013/14) <sup>1</sup>	4.6% of biogeographic population
Lesser black-backed gull <i>Larus fuscus</i>	Non-breeding	9,450 individuals (2009/10 – 2013/14) <sup>1</sup>	1.7% of biogeographic population
Lesser black-backed gull <i>Larus fuscus graellsii</i>	Breeding	9,720 individuals (2011- 2015) <sup>9</sup>	2.7% of biogeographic population
European herring gull <i>Larus argentatus argenteus</i>	Breeding	20,000 individuals (Morecambe Bay SPA citation value 1991) <sup>10</sup>	1.0% of biogeographic population (1991)

<sup>1</sup> Data from Wetland Bird Survey

<sup>2</sup> Current five year peak mean (2009/10 – 2013/14) = 3,494 (0.9% GB population)

<sup>3</sup> Data from RSPB

<sup>4</sup> Summed data from SMP relating to period of original classification for Morecambe Bay SPA and Duddon Estuary SPA (1988 – 1992). Current five year peak mean (2010-2014) = 40 pairs (0.4% GB population).

<sup>5</sup> Current five year peak mean (2010-2014) = 47 pairs (0.5% GB population).

<sup>6</sup> Data from Wetland Bird Survey and Icelandic-breeding Goose Census.

<sup>7</sup> Current five year peak mean (2009/10 – 2013/14) = 1,013 (0.4% biogeographic population).

<sup>8</sup> Current five year peak mean (2009/10 – 2013/14) = 849 (0.7% biogeographic population).

<sup>9</sup> Data from Seabird Monitoring Programme database, RSPB and Cumbria Wildlife Trust

<sup>10</sup> Current five year peak mean (2011-2015) = 3,192 individuals (0.5% biogeographic population).

<sup>11</sup> Mitchell, C. (2014). Status and distribution of Icelandic-breeding geese: results of the 2013 international census. Wildfowl & Wetlands Trust Report, Slimbridge. 20pp.

#### Assemblage qualification:

The site qualifies under **Article 4.2** of the Directive (2009/147/EC) as it used regularly by over 20,000 seabirds in any season:

At time of the 1997 citation of Morecambe Bay SPA, the area supported 40,672 individual seabirds including: herring gulls, lesser black-backed gulls, sandwich terns, common terns, and little terns.

The site qualifies under **Article 4.2** of the Directive (2009/147/EC) as it used regularly by over 20,000 waterbirds in any season:

During the period 2009/10 – 2013/14, the site held a five year peak mean value of 266,751 individual birds. The main components of the assemblage include all of the qualifying features listed above, as well as an additional 19 species present in numbers exceeding 1% of the GB total and / or exceeding 2,000 individuals: great white egret, Eurasian spoonbill, light-bellied brent goose (Nearctic origin), Eurasian wigeon, Eurasian teal, green-winged teal, mallard, ring-necked duck, common eider (non-breeding), common goldeneye, red-

breasted merganser, great cormorant, northern lapwing, little stint, spotted redshank, common greenshank, black-headed gull, common (mew) gull and European herring gull (non-breeding).

### Conservation Objectives

With regard to this SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features'), and subject to natural change;

**Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;**

☐☐The extent and distribution of the habitats of the qualifying features

☐☐The structure and function of the habitats of the qualifying features

☐☐The supporting processes on which the habitats of the qualifying features rely

☐☐The population of each of the qualifying features, and,

☐☐The distribution of the qualifying features within the site.

This document should be read in conjunction with the accompanying Conservation Advice document which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

### Qualifying Features

A026 *Egretta garzetta*; Little egret (Non-breeding)

A038 *Cygnus cygnus*; Whooper swan (Non-breeding)

A040 *Anser brachyrhynchus*; Pink-footed goose (Non-breeding)

A048 *Tadorna tadorna*; Common shelduck (Non-breeding)

A054 *Anas acuta*; Northern pintail (Non-breeding)

A130 *Haematopus ostralegus*; Eurasian oystercatcher (Non-breeding)

A137 *Charadrius hiaticula*; Ringed plover (Non-breeding)

A140 *Pluvialis apricaria*; European golden plover (Non-breeding)

A141 *Pluvialis squatarola*; Grey plover (Non-breeding)

A143 *Calidris canutus*; Red knot (Non-breeding)

A144 *Calidris alba*; Sanderling (Non-breeding)

A149 *Calidris alpina alpina*; Dunlin (Non-breeding)

A151 *Philomachus pugnax*; Ruff (Non-breeding)

A156 *Limosa limosa islandica*; Black-tailed godwit (Non-breeding)

A157 *Limosa lapponica*; Bar-tailed godwit (Non-breeding)

A160 *Numenius arquata*; Eurasian curlew (Non-breeding)

A162 *Tringa totanus*; Common redshank (Non-breeding)

A169 *Arenaria interpres*; Ruddy turnstone (Non-breeding)

A176 *Larus melanocephalus*; Mediterranean gull (Non-breeding)

A183 *Larus fuscus*; Lesser black-backed gull (Non-breeding)

A183 *Larus fuscus*; Lesser black-backed gull (Breeding)

A184 *Larus argentatus*; Herring gull (Breeding)

A191 *Sterna sandvicensis*; Sandwich tern (Breeding)

A193 *Sterna hirundo*; Common tern (Breeding)

A195 *Sterna albifrons*; Little tern (Breeding)

Waterbird assemblage

Seabird assemblage

### This is a European Marine Site

This SPA is a part of the Morecambe Bay European Marine Site ('EMS'). These Conservation Objectives should be used in conjunction with the current Conservation Advice document for the EMS.

For further details about this please visit the Natural England website at

<https://www.gov.uk/government/collections/conservation-advice-packages-for-marine-protected-areas> or

contact Natural England's enquiry service at [enquiries@naturalengland.org.uk](mailto:enquiries@naturalengland.org.uk) or by phone on 0845 600 3078.

**This is a new combined site**

This SPA replaces two individual sites – Morecambe Bay SPA (UK9005081) and Duddon Estuary SPA (UK9005031).

## Leighton Moss SPA

(information obtained from JNCC website 'UK Protected Sites' <http://jncc.defra.gov.uk/page-4> (accessed 07/08/2018) and the Natural England website 'Conservation objectives for European Sites: North West' <http://publications.naturalengland.org.uk/category/4582026845880320> (accessed 07/08/2018))

**Administrative area:** Lancashire (100%)

**Grid reference:** SD 485 750

**Area:** 128.61 ha

### Quality and importance

*Article 4.1 of the Directive (79/409/EEC)*

During the breeding season the area regularly supports:

<b>Bittern</b> <i>Botaurus stellaris</i> (Europe – breeding)	20.0% of the GB breeding population No count period specified
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<b>Marsh Harrier</b> <i>Circus aeruginosus</i>	1.3% of the GB breeding population No count period specified
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### Conservation Objectives

With regard to the SPA and the individual species and/or assemblage of species for which the site has been classified (the 'Qualifying Features' listed below), and subject to natural change;

**Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;**

- ☐ **The extent and distribution of the habitats of the qualifying features**
- ☐ **The structure and function of the habitats of the qualifying features**
- ☐ **The supporting processes on which the habitats of the qualifying features rely**
- ☐ **The population of each of the qualifying features, and,**
- ☐ **The distribution of the qualifying features within the site.**

This document should be read in conjunction with the accompanying *Supplementary Advice* document, which provides more detailed advice and information to enable the application and achievement of the Objectives set out above.

### Qualifying Features:

A021 *Botaurus stellaris*; Great bittern (Breeding)

### Additional Qualifying Features Identified by the 2001 UK SPA Review:

A021 *Botaurus stellaris*; Great bittern (Non-breeding)

A081 *Circus aeruginosus*; Eurasian marsh harrier (Breeding)

## Leighton Moss Ramsar site

(information obtained from JNCC website 'UK Protected Sites' <http://jncc.defra.gov.uk/page-4> (accessed 07/08/2018))

**Administrative area:** Lancashire

**Grid reference:** SD 485 750

**Area:** 128.61 ha

### General description of the Physical Features:

Leighton Moss is the largest reedbed in this region. It was originally a peatbog and was pump-drained and cultivated during the early 1900s and then allowed to revert to reedbed between the First and Second World Wars. As well as reedbeds, there are extensive areas of open water, large areas of tussock-sedge *Carex* spp. and transitional communities through fen to willow *Salix* spp. scrub and woodland. A typical and varied fen flora has developed in part, whilst the reedbed shows all stages of serial transition from open water through to woodland.

### Wetland Types: *Inland wetland*

Freshwater lakes: permanent 16.8%, Peatlands (including peat bogs swamps, fens) 73.7%, Shrub-dominated wetlands 9.5%

### Qualifying features:

#### **Ramsar criterion 1<sup>4</sup>**

An example of large reedbed habitat characteristic of the biogeographical region. The reedbeds are of particular importance as a northern outpost for breeding populations of **great bittern** *Botaurus stellaris*, **Eurasian marsh harrier** *Circus aeruginosus* and **bearded tit** *Panurus biarmicus*.

#### **Ramsar criterion 3<sup>5</sup>**

The site supports a range of breeding birds including **great bittern** *Botaurus stellaris*, **Eurasian marsh harrier** *Circus aeruginosus* and **bearded tit** *Panurus biarmicus*.

Species occurring in nationally important numbers outside the breeding season include **northern shoveler** *Anas clypeata* and **water rail** *Rallus aquaticus*.

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4 Ramsar Criterion 1: A wetland should be considered internationally important if it contains a representative, rare, or unique example of a natural or near-natural wetland type found within the appropriate biogeographic region.

5 Ramsar Criterion 3: A wetland should be considered internationally important if it supports populations of plant and/or animal species important for maintaining the biological diversity of a particular biogeographic region.

# Morecambe Bay Ramsar Site

(information obtained from JNCC website 'UK Protected Sites' <http://jncc.defra.gov.uk/page-4> (accessed 07/08/2018))

**Administrative area:** Cumbria, Lancashire

**Grid reference:** SD 371 697

**Area:** 37404.6 ha

## 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. 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.

## Wetland types

Human-made wetland, Marine/coastal wetland: Marine beds (e.g. sea grass beds) 0.4%, Sand / shingle shores (including dune systems) 0.3%, Estuarine waters 13%, Tidal flats 77.7%, Salt marshes 8.4%, Reservoirs / barrages / dams 0.2%.

## Qualifying features:

### **Ramsar criterion 4<sup>6</sup>**

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

### **Ramsar criterion 5<sup>7</sup>**

**Assemblages of international importance:**

### **Species with peak counts in winter:**

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

### **Ramsar criterion 6<sup>8</sup> - 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*,

**Herring gull**, *Larus argentatus argentatus*,

**Sandwich tern**, *Sterna (Thalasseus) sandvicensis sandvicensis*,

### **Species with peak counts in spring/autumn:**

**Great cormorant**, *Phalacrocorax carbo carbo*,

**Common shelduck**, *Tadorna tadorna*,

**Northern pintail**, *Anas acuta*,

**Common eider**, *Somateria mollissima mollissima*,

**Eurasian oystercatcher**, *Haematopus ostralegus ostralegus*,

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<sup>6</sup> Ramsar criterion 4 - A wetland should be considered internationally important if it supports plant and/or animal species at a critical stage in their life cycles, or provides refuge during adverse conditions. (Specific criteria based on waterbirds)

<sup>7</sup> Ramsar criterion 5 - A wetland should be considered internationally important if it regularly supports 20,000 or more waterbirds.

<sup>8</sup> Ramsar criterion 6: A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird.



**Ringed plover**, *Charadrius hiaticula*,  
**Grey plover**, *Pluvialis squatarola*,  
**Sanderling**, *Calidris alba*,  
**Eurasian curlew**, *Numenius arquata arquata*,  
**Common redshank**, *Tringa totanus totanus*,  
**Ruddy turnstone**, *Arenaria interpres interpres*,  
**Lesser black-backed gull**, *Larus fuscus graellsii*,

**Species with peak counts in winter:**

**Great crested grebe**, *Podiceps cristatus cristatus*,  
**Pink-footed goose**, *Anser brachyrhynchus*,  
**Eurasian wigeon**, *Anas penelope*,  
**Common goldeneye**, *Bucephala clangula clangula*,  
**Red-breasted merganser**, *Mergus serrator*,  
**European golden plover**, *Pluvialis apricaria apricaria*,  
**Northern lapwing**, *Vanellus vanellus*,  
**Red knot**, *Calidris canutus islandica*,  
**Dunlin**, *Calidris alpina alpina*,  
**Bar-tailed godwit**, *Limosa lapponica lapponica*,

## Other relevant plans

Lancaster District Local Plan (under review) - Core Strategy, 2008; Development Management DPD, 2014; Publication Strategic Policies and Land Allocation DPD; Publication Development Management DPD  
South Lakeland Local Plan – Saved policies 2006, Core Strategy 2010, Submission SLDC Development Management DPD  
Submission AONB Development Plan Document, 2018  
Cumbria Minerals and Waste Local Plan 2015 – 2030  
The Minerals and Waste Local Plan for Lancashire Minerals and Waste Local Plan, 2009  
Cumbria Countryside Access Strategy 2014-2019  
Lancashire Rights of Way Improvement Plan, 2015-2025  
Local Transport Plan 2011- 2021, A Strategy for Lancashire, May 2011  
Lancaster District Highways and Transport Masterplan (2016)  
Cumbria Transport Plan Strategy (2011-2026)  
Morecambe Bay Shoreline Management Plan 2  
Lancashire Enterprise Partnership Business Plan 2018  
Cumbria Local Enterprise Partnership Cumbria Rural and Visitor Economy Growth Plan, 2017