

Site Improvement Plan

Morecambe Bay

Site Improvement Plans (SIPs) have been developed for each Natura 2000 site in England as part of the Improvement Programme for England's Natura 2000 sites (IPENS). Natura 2000 sites is the combined term for sites designated as Special Areas of Conservation (SAC) and Special Protected Areas (SPA). This work has been financially supported by LIFE, a financial instrument of the European Community.

The plan provides a high level overview of the issues (both current and predicted) affecting the condition of the Natura 2000 features on the site(s) and outlines the priority measures required to improve the condition of the features. It does not cover issues where remedial actions are already in place or ongoing management activities which are required for maintenance.

The SIP consists of three parts: a Summary table, which sets out the priority Issues and Measures; a detailed Actions table, which sets out who needs to do what, when and how much it is estimated to cost; and a set of tables containing contextual information and links.

Once this current programme ends, it is anticipated that Natural England and others, working with landowners and managers, will all play a role in delivering the priority measures to improve the condition of the features on these sites.

The SIPs are based on Natural England's current evidence and knowledge. The SIPs are not legal documents, they are live documents that will be updated to reflect changes in our evidence/knowledge and as actions get underway. The information in the SIPs will be used to update England's contribution to the UK's Prioritised Action Framework (PAF).

The SIPs are not formal consultation documents, but if you have any comments about the SIP or would like more information please email us at IPENSLIFEProject@naturalengland.org.uk, or contact Natural England's Responsible Officer for the site via our enquiry service 0300 060 3900, or enquiries@naturalengland.org.uk

This Site Improvement Plan covers the following Natura 2000 site(s)

UK9005031 Duddon Estuary SPA

UK0013027 Morecambe Bay SAC

UK9005081 Morecambe Bay SPA

Site description

Morecambe Bay is a large embayment fed by the estuaries of the rivers Wyre, Lune, Kent, Keer, Leven and Duddon Estuary. It is one of the largest areas of intertidal flats in Britain and includes shallow subtidal sands, tide-washed channels (including the unique feature of Lune Deep) and rocky scars of glacially derived material.

Morecambe Bay and Duddon Estuary SPAs are important sites for wintering and migratory waders and wildfowl along the east Atlantic flyway from breeding grounds in the Arctic. The Bay also supports important breeding grounds for seabirds.

Morecambe Bay SAC consists of large shallow inlets and bays and intertidal mudflats and sandflats, glasswort and other annuals colonising mud and sand, saltmarshes, sand dunes and vegetated shingle communities.

Plan Summary

This table shows the prioritised issues for the site(s), the features they affect, the proposed measures to address the issues and the delivery bodies whose involvement is required to deliver the measures. The list of delivery bodies will include those who have agreed to the actions as well as those where discussions over their role in delivering the actions is on-going.

Priority & Issue	Pressure or Threat	Feature(s) affected	Measure	Delivery Bodies
1 Public Access/Disturbance	Threat	A040(NB) Pink-footed goose, A048(NB) Common shelduck, A054(NB) Pintail, A063(B) Common eider, A130(NB) Eurasian oystercatcher, A137(NB) Ringed plover, A140(NB) Golden plover, A141(NB) Grey plover, A143(NB) Red knot, A144(NB) Sanderling, A149(NB) Dunlin, A157(NB) Bar-tailed godwit, A160(NB) Curlew, A162(NB) Common redshank, A169(NB) Turnstone, A183(B) Lesser Black-backed gull, A184(B) Herring gull, A191(B) Sandwich tern, A193(B) Common tern, A195(B) Little tern, H1110 Subtidal sandbanks, H1130 Estuaries, H1140 Intertidal mudflats and sandflats, H1150 Coastal lagoons, H1160 Shallow inlets and bays, H1170 Reefs, H1220 Coastal shingle vegetation outside the reach of waves, H1310 Glasswort and other annuals colonising mud and sand, H1330 Atlantic salt meadows, H2110 Shifting dunes, H2120 Shifting dunes with marram, H2130 Dune grassland, H2150 Coastal dune heathland, H2170 Dunes with creeping willow, H2190 Humid dune slacks, S1166 Great crested newt, Seabird assemblage, Waterbird assemblage	Activity and bird evidence gathering project to inform the identification of appropriate management	Natural England, Morecambe Bay EMS Partnership, Landowner/occupier, Morecambe Bay Partnership, Duddon Estuary Partnership

2 Air Pollution: risk of atmospheric nitrogen deposition	Threat	A040(NB) Pink-footed goose, A048(NB) Common shelduck, A054(NB) Pintail, A063(B) Common eider, A130(NB) Eurasian oystercatcher, A137(NB) Ringed plover, A140(NB) Golden plover, A141(NB) Grey plover, A143(NB) Red knot, A144(NB) Sanderling, A149(NB) Dunlin, A157(NB) Bar-tailed godwit, A160(NB) Curlew, A162(NB) Common redshank, A169(NB) Turnstone, A183(B) Lesser Black-backed gull, A184(B) Herring gull, A191(B) Sandwich tern, A193(B) Common tern, A195(B) Little tern, H1110 Subtidal sandbanks, H1130 Estuaries, H1140 Intertidal mudflats and sandflats, H1150 Coastal lagoons, H1160 Shallow inlets and bays, H1170 Reefs, H1220 Coastal shingle vegetation outside the reach of waves, H1310 Glasswort and other annuals colonising mud and sand, H1330 Atlantic salt meadows, H2190 Humid dune slacks, Waterbird assemblage	Review impacts following the receipt of guidance from NE chief scientist group	Natural England
3 Water Pollution	Threat	A040(NB) Pink-footed goose, A048(NB) Common shelduck, A054(NB) Pintail, A063(B) Common eider, A130(NB) Eurasian oystercatcher, A137(NB) Ringed plover, A140(NB) Golden plover, A141(NB) Grey plover, A143(NB) Red knot, A144(NB) Sanderling, A149(NB) Dunlin, A157(NB) Bar-tailed godwit, A160(NB) Curlew, A162(NB) Common redshank, A169(NB) Turnstone, A183(B) Lesser Black-backed gull, A184(B) Herring gull, A191(B) Sandwich tern, A193(B) Common tern, A195(B) Little tern, H1110 Subtidal sandbanks, H1130 Estuaries, H1140 Intertidal mudflats and sandflats, H1150 Coastal lagoons, H1160 Shallow inlets and bays, H1170 Reefs, H1220 Coastal shingle vegetation outside the reach of waves, H1310 Glasswort and other annuals colonising mud and sand, H1330 Atlantic salt meadows, H2110 Shifting dunes, H2120 Shifting dunes with marram, H2130 Dune grassland, H2150 Coastal dune heathland, H2170 Dunes with creeping willow, H2190 Humid dune slacks, Seabird assemblage, Waterbird assemblage	Catchment Sensitive Farming (CSF) and ongoing Asset Management Plan (AMP) programme, to reduce water pollution through advice and grants	Environment Agency, Natural England, United Utilities Water Plc
4 Inappropriate pest control	Threat	A063(B) Common eider, A183(B) Lesser Black-backed gull, A184(B) Herring gull, A191(B) Sandwich tern, A193(B) Common tern, A195(B) Little tern	Review current/previous prevention measures, and identify further work or measures	Cumbria Wildlife Trust, Natural England, Landowner(s)

5	Invasive species	Threat	H2110 Shifting dunes, H2120 Shifting dunes with marram, H2130 Dune grassland, H2150 Coastal dune heathland, H2170 Dunes with creeping willow, H2190 Humid dune slacks	Current clearance programme requires identification of funding to be continued	Cumbria Wildlife Trust, National Trust, Natural England, Millom Town Trust
6	Fisheries: Commercial marine and estuarine	Pressure	A040(NB) Pink-footed goose, A048(NB) Common shelduck, A054(NB) Pintail, A063(B) Common eider, A130(NB) Eurasian oystercatcher, A137(NB) Ringed plover, A140(NB) Golden plover, A141(NB) Grey plover, A143(NB) Red knot, A144(NB) Sanderling, A149(NB) Dunlin, A157(NB) Bar-tailed godwit, A160(NB) Curlew, A162(NB) Common redshank, A169(NB) Turnstone, A183(B) Lesser Black-backed gull, A184(B) Herring gull, A191(B) Sandwich tern, A193(B) Common tern, A195(B) Little tern, Seabird assemblage, Waterbird assemblage	Review the bird/shellfish model and identify further evidence projects to inform management	Natural England, North Western Inshore Fisheries Conservation Authority (IFCA), Morecambe Bay EMS Partnership
7	Fisheries: Aquaculture	Pressure	A040(NB) Pink-footed goose, A048(NB) Common shelduck, A054(NB) Pintail, A063(B) Common eider, A130(NB) Eurasian oystercatcher, A137(NB) Ringed plover, A140(NB) Golden plover, A141(NB) Grey plover, A143(NB) Red knot, A144(NB) Sanderling, A149(NB) Dunlin, A157(NB) Bar-tailed godwit, A160(NB) Curlew, A162(NB) Common redshank, A169(NB) Turnstone, A183(B) Lesser Black-backed gull, A184(B) Herring gull, A191(B) Sandwich tern, A193(B) Common tern, A195(B) Little tern, H1110 Subtidal sandbanks, H1130 Estuaries, H1140 Intertidal mudflats and sandflats, H1310 Glasswort and other annuals colonising mud and sand, Seabird assemblage, Waterbird assemblage	Development of appropriate implementation of larger scale aquaculture within Morecambe Bay	Defra, Developer, Environment Agency, Natural England, North Western Inshore Fisheries Conservation Authority (IFCA), Marine Management Organisation (MMO), Morecambe Bay EMS Partnership, Centre for Environment, Fisheries and Aquaculture Science (Cefas), Other
8	Biological Resource Use	Threat	H1220 Coastal shingle vegetation outside the reach of waves, H2120 Shifting dunes with marram, H2130 Dune grassland, H2150 Coastal dune heathland, H2170 Dunes with creeping willow, H2190 Humid dune slacks	Identify appropriate grazing regime and mechanism to implement	Cumbria Wildlife Trust, National Trust, Millom Town Trust
9	Change in land management	Threat	H2130 Dune grassland	Potential partnership work to deliver improved grazing management regime	Cumbria Wildlife Trust, Natural England
10	Hydrological changes	Threat	H1150 Coastal lagoons	Management of lagoonal hydrology to maintain marine species	Natural England

11 Invasive species	Pressure	A040(NB) Pink-footed goose, A048(NB) Common shelduck, A054(NB) Pintail, A063(B) Common eider, A130(NB) Eurasian oystercatcher, A137(NB) Ringed plover, A140(NB) Golden plover, A141(NB) Grey plover, A143(NB) Red knot, A144(NB) Sanderling, A149(NB) Dunlin, A157(NB) Bar-tailed godwit, A160(NB) Curlew, A162(NB) Common redshank, A169(NB) Turnstone, A183(B) Lesser Black-backed gull, A184(B) Herring gull, A191(B) Sandwich tern, A193(B) Common tern, A195(B) Little tern, H1110 Subtidal sandbanks, H1130 Estuaries, H1140 Intertidal mudflats and sandflats, H1150 Coastal lagoons, H1160 Shallow inlets and bays, H1170 Reefs, H1220 Coastal shingle vegetation outside the reach of waves, H1310 Glasswort and other annuals colonising mud and sand, H1330 Atlantic salt meadows, H2110 Shifting dunes, H2120 Shifting dunes with marram, H2130 Dune grassland, H2150 Coastal dune heathland, H2170 Dunes with creeping willow, H2190 Humid dune slacks, S1166 Great crested newt, Seabird assemblage, Waterbird assemblage	Work with regulators and developers to improve biosecurity measures	Defra, Environment Agency, Local Authority(ies), Natural England, North Western Inshore Fisheries Conservation Authority (IFCA), Ports And Harbour Authority(ies), Landowner(s), Marine Management Organisation (MMO), Rivers Trust, Centre for Environment, Fisheries and Aquaculture Science (Cefas), South Cumbria Rivers Trust, West Cumbria Rivers Trust
12 Physical modification	Pressure	H1330 Atlantic salt meadows	Regulation of management by Natural England	Environment Agency, Natural England
13 Energy production	Pressure	A040(NB) Pink-footed goose, A048(NB) Common shelduck, A054(NB) Pintail, A063(B) Common eider, A130(NB) Eurasian oystercatcher, A137(NB) Ringed plover, A140(NB) Golden plover, A141(NB) Grey plover, A143(NB) Red knot, A144(NB) Sanderling, A149(NB) Dunlin, A157(NB) Bar-tailed godwit, A160(NB) Curlew, A162(NB) Common redshank, A169(NB) Turnstone, A183(B) Lesser Black-backed gull, A184(B) Herring gull, A191(B) Sandwich tern, A193(B) Common tern, A195(B) Little tern, H1110 Subtidal sandbanks, H1130 Estuaries, H1170 Reefs, H1310 Glasswort and other annuals colonising mud and sand, Seabird assemblage, Waterbird assemblage	Identification of coordinated delivery of advice, eventually through Coastal Concordat	Defra, Developer, Environment Agency, Lake District National Park Authority, Local Authority(ies), Natural England, Marine Management Organisation (MMO), Department for Transport

14 Fisheries: Commercial marine and estuarine	Pressure/ Threat	A040(NB) Pink-footed goose, A048(NB) Common shelduck, A054(NB) Pintail, A063(B) Common eider, A130(NB) Eurasian oystercatcher, A137(NB) Ringed plover, A140(NB) Golden plover, A141(NB) Grey plover, A143(NB) Red knot, A144(NB) Sanderling, A149(NB) Dunlin, A157(NB) Bar-tailed godwit, A160(NB) Curlew, A162(NB) Common redshank, A169(NB) Turnstone, A183(B) Lesser Black-backed gull, A184(B) Herring gull, A191(B) Sandwich tern, A193(B) Common tern, A195(B) Little tern, H1110 Subtidal sandbanks, H1130 Estuaries, H1140 Intertidal mudflats and sandflats, H1150 Coastal lagoons, H1160 Shallow inlets and bays, H1170 Reefs, H1220 Coastal shingle vegetation outside the reach of waves, H1310 Glasswort and other annuals colonising mud and sand, H1330 Atlantic salt meadows, H2110 Shifting dunes, H2120 Shifting dunes with marram, H2130 Dune grassland, H2150 Coastal dune heathland, H2190 Humid dune slacks, S1166 Great crested newt, Waterbird assemblage	Review all fisheries and where appropriate deliver management measures	Environment Agency, Natural England, North Western Inshore Fisheries Conservation Authority (IFCA), Marine Management Organisation (MMO), Review of Fisheries Project Board
15 Changes in species distributions	Pressure/ Threat	A040(NB) Pink-footed goose, A048(NB) Common shelduck, A054(NB) Pintail, A063(B) Common eider, A130(NB) Eurasian oystercatcher, A137(NB) Ringed plover, A140(NB) Golden plover, A141(NB) Grey plover, A143(NB) Red knot, A144(NB) Sanderling, A149(NB) Dunlin, A157(NB) Bar-tailed godwit, A160(NB) Curlew, A162(NB) Common redshank, A169(NB) Turnstone, A183(B) Lesser Black-backed gull, A184(B) Herring gull, A191(B) Sandwich tern, A193(B) Common tern, A195(B) Little tern, Seabird assemblage, Waterbird assemblage	Review of bird population trends locally and nationally and identify issues	Natural England
16 Direct impact from 3rd party	Threat	A063(B) Common eider, A183(B) Lesser Black-backed gull, A184(B) Herring gull, A191(B) Sandwich tern, A193(B) Common tern, A195(B) Little tern	Seek effective measures to prevent taking of eggs by humans	Cumbria Wildlife Trust, National Trust, Natural England, RSPB

Issues and Actions

This table outlines the prioritised issues that are currently impacting or threatening the condition of the features, and the outstanding actions required to address them. It also shows, where possible, the estimated cost of the action and the delivery bodies whose involvement will be required to implement the action. Lead delivery bodies will be responsible for coordinating the implementation of the action, but not necessarily funding it. Delivery partners will need to support the lead delivery body in implementing the action. In the process of developing the SIPs Natural England has approached the delivery bodies to seek agreement on the actions and their roles in delivering them, although in some cases these discussions have not yet been concluded. Other interested parties, including landowners and managers, will be involved as the detailed actions are agreed and delivered. Funding options are indicated as potential (but not necessarily agreed or secured) sources to fund the actions.

1 Public Access/Disturbance

There is recreational disturbance to all features from various activities from individuals (e.g. dog walkers) to organised groups occurring throughout Morecambe Bay. In some cases, (e.g. wind and kite surfing) activities are increasing. Previous attempts at developing 'codes of conduct', and good practice have not been successful. New access points are being created or old tracks widened etc., and there are long term/historical issues. There are boat moorings at Foulney (Roa Island) that are on or near seagrass beds, with no clear management of the placement or number of moorings. This has been discussed with the Boat Club but part of the land is owned by Boughton Estate. The scale of recreational disturbance is currently unknown but considered to be both localised and widespread. Activities require regulation to ensure birds are not disturbed and habitats are not damaged.

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
1A	Detailed study into the sources of disturbance and scale of impacts at local and SPA level. Identify long term plan for engaging with public recreational users of Morecambe Bay.	£30,000	2014-18	Mechanism not identified / develop mechanism	Heritage Lottery Fund (HLF)	Local partnership	Morecambe Bay EMS Partnership, Morecambe Bay Partnership
1B	Detailed study into the sources of disturbance and scale of impacts at local and SPA level. Identify long term plan for engaging with public recreational users of Duddon Estuary and Morecambe Bay not captured in existing study.	£30,000	2014-18	Mechanism not identified / develop mechanism	Not yet determined	Natural England	Morecambe Bay EMS Partnership, Morecambe Bay Partnership, Duddon Estuary Partnership

<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
1C	Implementation of recommendations from recreational disturbance reports within Morecambe Bay and Duddon Estuary and identify long term resourcing to ensure momentum for engagement is maintained.	Not yet determined	2015-18	Advice	Not yet determined	Natural England	n/a
<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
1D	Review of mooring permissions with landowners and take appropriate actions.	Not yet determined	2014-16	Mechanism not identified / develop mechanism	Not yet determined	Natural England	Landowner/occupier

2 Air Pollution: risk of atmospheric nitrogen deposition

Nitrogen deposition exceeds the site-relevant critical load for ecosystem protection and hence there is a risk of harmful effects, but the sensitive features are currently considered to be in favourable condition on the site. This requires further investigation.

<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
2A	Further investigate the potential atmospheric nitrogen impacts on the site based on application of guidance from Chief Scientist's Group Nitrogen Task and Finish group	Not yet determined	2014-17	Investigation / Research / Monitoring	Not yet determined	Natural England	n/a

3 Water Pollution

Diffuse pollution and/or uncontrolled release of pollutants from terrestrial sources could alter or damage the habitats and species found within the estuary.

<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
3A	Control, reduce and ameliorate water pollution impacts	Not yet determined	2014-16	England Catchment Sensitive Farming (CSF)	Not yet determined	Natural England	n/a

<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
3B	Control, reduce and ameliorate water pollution impacts	Not yet determined	2014-15	Water Industry Asset Management Plan (AMP): Implement Investigation	Not yet determined	Environment Agency	United Utilities Water Plc

4 Inappropriate pest control

Predation of nesting birds: there is a potential adverse effect on the integrity of the SPA, particularly to the breeding terns and gulls around South Walney, Foulney and Chapel Island (also Eider ducks) where breeding success has been adversely affected by predation by foxes, badgers and rats.

<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
4A	In 2012, following a poor 2011 breeding season, perceived to be due to mammalian predation, 1.5km of chicken fence was used to exclude ground predators from the gull colony and this appeared to work other than "some predation" near the fledging stage. Cameras operated at night indicated at least one badger was venturing on to the Shelly Bars spit along with the more predictable foxes. There is a need to the ensure programme is followed up in future years in addition to pest active pest control measures	Not yet determined	2014-15	Mechanism not identified / develop mechanism	Not yet determined	Cumbria Wildlife Trust	Natural England

<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
4B	To implement appropriate pest control around key breeding sites at Chapel Island, Foulney and South Walney.	Not yet determined	2014-18	Mechanism not identified / develop mechanism	Not yet determined	Cumbria Wildlife Trust	Natural England, Landowner(s)

5 Invasive species

Non-native species such as *Rosa Rugosa* Japanese Rose are encroaching upon sand dunes around Barrow in Furness, and there are no resources available after the ending of grants from Waste Recycling Environmental Ltd (WREN), for ongoing management.

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
5A	Significant <i>Rosa rugosa</i> clearance is underway but there is a need to ensure the programme is followed up in future years on sand dunes.	Not yet determined	2018-19	Major Landowner Group land ownership activities : Undertake Specific Management Works	Not yet determined	Natural England	Cumbria Wildlife Trust, National Trust, Millom Town Trust

6 Fisheries: Commercial marine and estuarine

The food requirements and feeding behaviour of SPA species within the Bay are not well known and there is concern that the continued decline in breeding and overwintering bird numbers may be linked to the mussel fisheries and competition for food. The particular focus is on bivalve dependant species which may be competing for mussels or feeding sites, for example with the commercial seed mussel fishery in the part of Morecambe Bay known as South America.

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
6A	To review the bird and shellfisheries model work and the Eider Risk Review (upon publication) previously undertaken in Morecambe Bay and identify future projects necessary to deliver appropriate management. Working with local delivery partners to deliver this.	Not yet determined	2014-18	Mechanism not identified / develop mechanism	Not yet determined	Local partnership	Natural England, North Western Inshore Fisheries Conservation Authority (IFCA), Morecambe Bay EMS Partnership

7 Fisheries: Aquaculture

Several operators are looking at developing aquaculture production of mussels in Morecambe Bay and Duddon Estuary. Small scale trials have been undertaken in the Walney Channel and showed that, for commercial viability, some areas seabed e.g. where there are 'poor' quality mussel beds, would need to be cleared to prepare the site for relaying of commercial quantities of seed/single year class of mussel. The impact of removal of one habitat and creation of a similar habitat but with potentially a different ecological function, is not well known. The North Western IFCA are looking at these activities and are identifying areas where such activity would be allowed as part of fisheries management; granting of these sites could start by 2015. Although these would be subject to HRA, there is a deficit of documented evidence of the impact of such large scale modifications. Biosecurity issues also need to be considered as aquaculture could potentially alter the function of surrounding habitats due to introduction of invasive species.

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
7A	Provide advice to North Western Inshore Fisheries Conservation Authority (IFCA) and operators where required on development of aquaculture within Morecambe Bay/Duddon Estuary. Consider the impacts of larger scale aquaculture and possible biosecurity plans/conditions required.	Not yet determined	2014-16	Advice	Not yet determined	North Western Inshore Fisheries Conservation Authority (IFCA)	Defra, Developer, Environment Agency, Natural England, Marine Management Organisation (MMO), Morecambe Bay EMS Partnership, Centre for Environment, Fisheries and Aquaculture Science (Cefas), Other

8 Biological Resource Use

Grazing needs to be regulated to maintain SAC habitat features and prevent scrub encroachment.

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
8A	Grazing needs to be increased/ introduced on the dune habitats to prevent scrub encroachment	Not yet determined	2014-16	Major Landowner Group land ownership activities : Undertake Specific Management Works	Not yet determined	Natural England	Cumbria Wildlife Trust, National Trust, Millom Town Trust

9 Change in land management

Improved grazing management is required to manage dune habitats on North Walney NNR.

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
9A	An improved grazing regime needs to be introduced around North Walney NNR to manage scrub control and floristic diversity.	Not yet determined	2014-16	Mechanism not identified / develop mechanism	Not yet determined	Cumbria Wildlife Trust	Natural England

10 Hydrological changes

Rosecote power station reached the end of its operational lifetime and has shut down. This has resulted in a lowering of the temperature in Cavendish dock and *Ruppia* will no longer grow. In addition, there is a threat from changes in salinity due to changes in how often the dock is opened to the wider dock system.

<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
10A	Management of hydrological thermal regime at lagoons associated with Rosecote power station, to maintain locally rare and distinctive marine species	Not yet determined	2014-16	Investigation / Research / Monitoring	Not yet determined	Natural England	n/a

11 Invasive species

Pacific Oyster has been found within Walney Channel (non farmed). Duddon Estuary has had reported sightings of Chinese Mitten Crab which may have been introduced through Mussel dredging/relaying. There are limited biosecurity measures and potential need for greater monitoring and possible eradication of INNS.

<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
11A	To work with developers and appropriate regulators where necessary, to identify biosecurity measures and to feed into the national Natural England work on addressing Invasive Non-Native Species.	Not yet determined	2014-18	Advice	Not yet determined	Natural England	Defra, Environment Agency, Local Authority(ies), North Western Inshore Fisheries Conservation Authority (IFCA), Ports And Harbour Authority(ies), Landowner(s), Marine Management Organisation (MMO), Centre for Environment, Fisheries and Aquaculture Science (Cefas), South Cumbria Rivers Trust, West Cumbria Rivers Trust

<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
11B	Review the Defra and Natural England report for reviewing policy and advice on Pacific Oysters to ensure consistency around the country, and advise developers and regulators appropriately. Make use of the findings from the IPENS Pacific Oyster evidence project.	Not yet determined	2014-15	Advice	Not yet determined	Natural England	n/a

12 Physical modification

Drain clearance and de-silting of saltmarsh channels; dredging and modification of natural saltmarsh creeks. Sand and mud is removed from the creeks to prevent inland flooding, and the dredged material is often piled onto the marshes where spreading is not possible; this changes the local characteristics of the marsh flora on the raised mounds.

<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
12A	De-silting and disposing of extracted material can change the physicality of saltmarshes, including creation of raised mounds or higher ground. Regulation needs to be implemented in order to improve this issue.	Not yet determined	2014-16	Regulation: SSSI Regulation	Not yet determined	Natural England	Environment Agency

13 Energy production

Licences for wind farm cabling/oil and gas pipelines etc. have previously been granted in a number of areas within Morecambe Bay which have required both terrestrial and marine permissions/licenses for the development. There is a need for better consideration/awareness of marine and coastal impacts during assessment of planning applications (terrestrial element of development) to prevent mixed messages regarding the impacts of the development and potential oversight of issues prior to the marine license being assessed.

<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
13A	Cable landfall linked to offshore energy production/ gas storage schemes are numerous, need better understanding of the impacts across the entire Natura 2000 site and the long term impacts of major pipeline projects which could include monitoring projects.	Not yet determined	2014-16	Mechanism not identified / develop mechanism	Not yet determined	Local partnership	Developer

<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
13B	Adoption of Coastal Concordat by Local Authorities and Regulating Bodies to allow provision of coordinated delivery of advice, survey/monitoring requests and raising any issues at an early stage for non-Nationally Significant Infrastructure Project (NSIP) cases.	Not yet determined	2014-16	Partnership agreement	Not yet determined	Local Authority(ies)	Defra, Environment Agency, Lake District National Park Authority, Natural England, Marine Management Organisation (MMO), Department for Transport

14 Fisheries: Commercial marine and estuarine

Commercial fishing activities categorised as ‘amber or green’ under Defra’s revised approach to commercial fisheries in EMSs require assessment and (where appropriate) management. This assessment will be undertaken by NWIFCA. For activities categorised as ‘green’, these assessments should take account of any in-combination effects of amber activities, and/or appropriate plans or projects, in the site.

Fisheries activities within Morecambe Bay are varied and limited spatially. The impacts of mussel dredging, seed mussel (hand gathering), shrimp fishing (tractor and boat), netting, bait digging (recreational/commercial) and other identified on going or potential fisheries are to be assessed. Environment Agency are responsible for migratory fish species.

<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
15A	Amber/Green site/features: Where these assessments indicate management is required, appropriate measures will be introduced by the NWIFCA. If management measures are established to protect the feature(s), on-going work will be required by the NWIFCA to ensure compliance and an appropriate level of reporting to ensure sites are well managed and to enable Natural England to provide advice on the condition of features and potential condition threats.	Not yet determined	2014-16	Implementation Of Appropriate Coastal Management	Not yet determined	North Western Inshore Fisheries Conservation Authority (IFCA)	Environment Agency, Natural England, Marine Management Organisation (MMO), Review of Fisheries Project Board

15 Changes in species distributions

There have been declines in bird population numbers for several species notified within Morecambe Bay and Duddon Estuary SPA's. It is unclear if it is a local or national trend in declines, if it is attributed to an anthropogenic problem or if they have birds relocated elsewhere and national populations are maintained. Also within Morecambe Bay there is a current issue of decline in the population of SPA gulls whilst urban gull numbers are increasing. This is leading to the increase in use of general licences which are not regulated.

<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
15A	Review of population data for notified species both locally and nationally - particularly trend analysis.	Not yet determined	2014-16	Investigation / Research / Monitoring	Not yet determined	Natural England	n/a
15B	Review of general licence for gull control to address urban gull population issues.	Not yet determined	2014-15	Regulation: Other - obtain appropriate permissions	Not yet determined	Natural England	n/a

16 Direct impact from 3rd party

Taking of bird eggs by collectors and other individuals from breeding colonies nest sites, particularly Hodbarrow and South Walney for ground nesting seabirds.

<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
16A	To improve the protection of important breeding colonies, long term wardens for sites need to be secured. This will enable maintenance of effective enclosures.	Not yet determined	2014-16	Non-Natural England funded site management plan	Not yet determined	Local partnership	Cumbria Wildlife Trust, National Trust, Natural England, RSPB

Site details

The tables in this section contain site-relevant contextual information and links

Qualifying features

#UK Special responsibility

Duddon Estuary SPA

A143(NB) *Calidris canutus*: Red knot

A162(NB) *Tringa totanus*: Common redshank

A191(B) *Sterna sandvicensis*: Sandwich tern

Waterbird assemblage

A054(NB) *Anas acuta*: Northern pintail

Morecambe Bay SAC

S1166 *Triturus cristatus*: Great crested newt

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

H1130 Estuaries

H1140 Mudflats and sandflats not covered by seawater at low tide

H1150# Coastal lagoons

H1160 Large shallow inlets and bays

H1170 Reefs

H1220 Perennial vegetation of stony banks

H1310 Salicornia and other annuals colonising mud and sand

H1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)

H2110 Embryonic shifting dunes

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

H2130# Fixed dunes with herbaceous vegetation ("grey dunes")

H2150# Atlantic decalcified fixed dunes (*Calluno-Ulicetea*)

H2170 Dunes with *Salix repens ssp argentea* (*Salicion arenariae*)

H2190 Humid dune slacks

Morecambe Bay SPA

A143(NB) *Calidris canutus*: Red knot

A137(NB) *Charadrius hiaticula*: Ringed plover

A157(NB) *Limosa lapponica*: Bar-tailed godwit

A160(NB) *Numenius arquata*: Eurasian curlew

A149(NB) *Calidris alpina alpina*: Dunlin

A162(NB) *Tringa totanus*: Common redshank

A140(NB) *Pluvialis apricaria* : European golden plover

A141(NB) *Pluvialis squatarola*: Grey plover

A169(NB) *Arenaria interpres*: Ruddy turnstone

A183(B) *Larus fuscus*: Lesser black-backed gull

A184(B) *Larus argentatus*: Herring gull

A191(B) *Sterna sandvicensis*: Sandwich tern

A193(B) *Sterna hirundo*: Common tern

A195(B) *Sterna albifrons*: Little tern

Waterbird assemblage

A040(NB) *Anser brachyrhynchus*: Pink-footed goose

A048(NB) *Tadorna tadorna*: Common shelduck

A054(NB) *Anas acuta*: Northern pintail

A063(B) *Somateria mollissima*: Common eider

A130(NB) *Haematopus ostralegus*: Eurasian oystercatcher

Site location and links

Duddon Estuary SPA

Area (ha) **6806.3**

Grid reference **SD180765**

[Map link](#)

Local Authorities

Site Conservation Objectives

European Marine Site conservation advice

Regulation 33/35 Package

Marine Management Organisation site plan

Morecambe Bay SAC

Area (ha) **61506.22** Grid reference **SD371697**

Local Authorities

Site Conservation Objectives

European Marine Site conservation advice

Regulation 33/35 Package

Marine Management Organisation site plan

Morecambe Bay SPA

Area (ha) **37404.6** Grid reference **SD375700**

Local Authorities

Site Conservation Objectives

European Marine Site conservation advice

Regulation 33/35 Package

Marine Management Organisation site plan

Cumbria

[Duddon Estuary SPA](#)

[Duddon Estuary SPA](#)

[Regulation 33/35 package link](#)

[n/a](#)

[Map link](#)

Cumbria; Lancashire

[European Site Conservation Objectives for Morecambe Bay SAC](#)

[Morecambe Bay EMS](#)

[Regulation 33/35 package link](#)

[n/a](#)

[Map link](#)

Cumbria; Lancashire

[European Site Conservation Objectives for Morecambe Bay SPA](#)

[Morecambe Bay EMS](#)

[Regulation 33/35 package link](#)

[n/a](#)

Water Framework Directive (WFD)

The Water Framework Directive (WFD) provides the main framework for managing the water environment throughout Europe. Under the WFD a management plan must be developed for each river basin district. The River Basin Management Plans (RBMP) include a summary of the measures needed for water dependent Natura 2000 sites to meet their conservation objectives. For the second round of RBMPs, SIPs are being used to capture the priorities and new measures required for water dependent habitats on Natura 2000 sites. SIP actions for non-water dependent sites/habitats do not form part of the RBMPs and associated consultation.

Duddon Estuary SPA

River basin

[North West RBMP](#)

WFD Management catchment

South West Lakes

WFD Waterbody ID (Cycle 2 draft)

GB112074069830, GB112074069850, GB112074069880, GB112074069910

Morecambe Bay SAC

River basin

[North West RBMP](#)

WFD Management catchment

Kent/Leven, Lune, South West Lakes, Wyre

WFD Waterbody ID (Cycle 2 draft)

GB112072065860, GB112072065880, GB112072065900, GB112073064430, GB112073071032, GB112073071040, GB112073071070, GB112073071150, GB112073071160, GB112073071270, GB112073071350, GB112073071420, GB112073071440, GB112073071460, GB112074069830, GB112074069850, GB112074069880, GB112074069910

Morecambe Bay SPA

River basin

[North West RBMP](#)

WFD Management catchment

Kent/Leven, Lune, Weaver/Gowy

WFD Waterbody ID (Cycle 2 draft)

GB112072065860, GB112072065880, GB112072065900, GB112072066120, GB112072066160, GB112073064430, GB112073071032, GB112073071040, GB112073071070, GB112073071150, GB112073071160, GB112073071270, GB112073071350, GB112073071420, GB112073071440, GB112073071460

Overlapping or adjacent protected sites

Site(s) of Special Scientific Interest (SSSI)	
Duddon Estuary SPA	Duddon Estuary SSSI
Morecambe Bay SAC	Wyre Estuary SSSI
	Roudsea Wood & Mosses SSSI
	South Walney & Piel Channel Flats SSSI
	Morecambe Bay SSSI
	Lune Estuary SSSI
	Duddon Estuary SSSI
Morecambe Bay SPA	Wyre Estuary SSSI
	Roudsea Wood & Mosses SSSI
	South Walney & Piel Channel Flats SSSI
	Morecambe Bay SSSI
	Lune Estuary SSSI
National Nature Reserve (NNR)	
Duddon Estuary SPA	North Walney NNR Sandscale Haws NNR
Morecambe Bay SAC	North Walney NNR
	Roudsea Wood and Mosses NNR
	Sandscale Haws NNR
Morecambe Bay SPA	Roudsea Wood and Mosses NNR
Ramsar	
Duddon Estuary SPA	Duddon Estuary
Morecambe Bay SAC	Duddon Estuary
	Morecambe Bay
Morecambe Bay SPA	Morecambe Bay
Special Areas of Conservation (SAC) and Special Protection Areas (SPA)	

Duddon Estuary SPA

Morecambe Bay SAC

Morecambe Bay SPA

Morecambe Bay SAC

Morecambe Bay SPA

Duddon Estuary SPA

Morecambe Bay SAC

<i>Version</i>	<i>Date</i>	<i>Comment</i>
1.0	17/12/14	

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