

Habitats Regulations Assessment for the Arnsdale & Silverdale AONB Delivery Plan

a report for
the Arnsdale & Silverdale AONB Team



compiled by

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Introduction

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 49% of the total AONB area.

These sites are:

- Morecambe Bay Pavements Special Area of Conservation (SAC)
- Morecambe Bay SAC
- Morecambe Bay 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 is the most extensive of the three as it encompasses the entire Bay between Walney Island and Fleetwood as well as the Duddon Estuary, while the SPA and Ramsar site cover only the intertidal sandflats and saltmarshes of Morecambe Bay. The 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 of the Bay.

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.

As part of the process of producing a delivery plan for the Arnside & Silverdale AONB, regard needs to be given to any impacts of proposed management actions upon these designated sites which the UK has an obligation to safeguard under European legislation.

This report was commissioned by the Arnside & Silverdale AONB Team to provide a Habitats Regulations Assessment (HRA), in order to evaluate the potential impacts of proposed management actions on the AONB's international sites and advise where issues requiring resolution might arise.

Methods

Each of the proposed management actions listed in the AONB Delivery Plan was considered against the following three stages:

1. Is the proposal directly connected with or necessary to the management of the site for nature conservation?
2. If not, is the proposal likely to have a significant effect on the site?
3. If yes, can it be ascertained that the proposal will not adversely affect the integrity of the site?

Results and Conclusions

Assessments against each of the proposed management actions are given in the table below.

Responsibility for direct management of the AONB's international sites does not lie with the AONB Team. The majority of the actions contained within the AONB Delivery Plan are unlikely to be considered essential for the maintenance of internationally important features; though actions where this may be the case have been identified.

A large proportion of the proposed actions will have no significant effect upon the international sites and often do not impinge on these sites at all.

Many of the proposals will result in direct or indirect implications for international site features, but in the majority of cases, these proposals will be positively beneficial for one or more of the features.

None of the management proposals are considered likely to have an adverse effect upon any of the international features, though a few could adversely impact upon features if carried out in an inappropriate manner. While it is assumed that such factors would be considered in the implementation of the management actions, potential risks have been highlighted and conditions stated for the avoidance of doubt. It is considered that none of the management proposals are likely to adversely affect the integrity of any of the international sites provided these listed conditions are met.

Proposed management actions are highlighted, with comments shown in red print, where:-

- **there is potential for adverse impact on one or more of the international sites if actions are carried out inappropriately; or**
- **an independent Habitats Regulation Assessment would be required for any individual actions proposed which could directly impact upon international sites.**

Landscape and seascape

Objective 1: Conserve, enhance and improve understanding of landscape and seascape character and features which contribute to the special qualities and setting of Arnside & Silverdale AONB

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
<p>1.1 Ensure all development management decisions relating to proposals within the AONB and those beyond the boundary which could impact on the setting and views out from the AONB seek to reinforce landscape character and conserve biodiversity, geodiversity and the historic environment, having regard to the AONB Management Plan, Arnside & Silverdale Landscape and Seascape Character Assessment, relevant county landscape assessments and the Morecambe Bay Limestones National Character Area (see also Action 10.4)</p>	<p>no adverse effect - international sites are not the main focus but monitoring of developments will ensure regard to all biodiversity issues, including international features. Appropriate precautions need to be taken as part of the planning process.</p>					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
<p>1.2 As a companion document to the AONB Management Plan, prepare and adopt a dedicated Development Plan Document for the Arnsdale & Silverdale AONB that properly reflects the purposes of AONB designation and that fulfils the obligations relating to AONBs as set out in the National Planning Policy Framework (see Management Plan section 1.9 for more detail of what the DPD will seek to achieve) (see also Action 10.1)</p>	<p>no adverse effect - international sites are not the focus of this document but it is highly likely that these sites will benefit through consideration of the AONB designation as a whole. The Local Authority has a duty to ensure any development is compatible with the interest of international sites. The Development Plan Document will need to respect the international sites and an independent HRA will be required for the Plan as a whole as well as separate HRAs for any individual developments which may impact upon one or more of the international sites.</p>					
<p>1.3 Ensure the national importance of the AONB landscape is recognised and policies to ensure the conservation and enhancement of the area are included in new and reviewed plans and policies relevant to the area</p>	<p>no likely significant effect - landscape not directly an issue for features of international sites. Landscape priorities unlikely to conflict with nature conservation in international sites</p>					
<p>1.4 Ensure proposals for National Grid's new power infrastructure seek to minimise impacts on the setting and views from the AONB through continued engagement of the Stakeholder Reference Group</p>	<p>no adverse effect - International sites are one of many issues to consider and will need to be highlighted and avoided for new works as far as possible. If there are any cases where avoidance is not possible, National Grid would be required to produce a separate HRA regarding the specific development</p>					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
1.5 Seek to minimise the landscape impacts including cumulative impacts of large scale renewable energy proposals and national infrastructure projects, by providing appropriate guidance (e.g. county landscape strategies and wind energy guidance) and through development management decisions. Ensure planning guidance provided to developers and others, demonstrates compliance with CRoW Act Section 85 duty.	no likely significant effect - landscape not directly an issue for features of international sites, though clearly there are potential issues regarding habitat and risk to vulnerable bird species through inappropriate developments. Local Authorities will be responsible for Habitats Regulations requirements for individual cases.					
1.6 Ensure that wind energy applications that affect the AONB or its setting are required to demonstrate that the Landscape and Visual Impact Assessments have used the best available data and information and taken full account of the provisions of the National Planning Policy Framework regarding AONBs. Seek to ensure that visualisation work that supports such applications is submitted in accordance with the requirements of relevant good practice.	no likely significant effect - landscape not directly an issue for features of international sites, though clearly there are potential issues regarding habitat and risk to vulnerable bird species through inappropriate developments					
1.7 Publish and adopt the Cumulative Landscape & Visual Impact of Vertical Infrastructure – Assessment & Guidelines	no likely significant effect - landscape not directly an issue for features of international sites, though clearly there are potential issues regarding habitat and risk to vulnerable bird species through inappropriate developments					
1.8 Support the conservation of characteristic landscape features such as in-field trees, hedgerows, drystone walls, ponds and limekilns through development management and environmental land management schemes.	no likely significant effect - care is required to ensure that such features are appropriate to the location and will not adversely impact upon notable species and habitats through loss or fragmentation of habitats. Provided this is the case, appropriate landscape features are unlikely to have any significant direct impact upon any of the qualifying international site features and may enhance the overall biodiversity of international sites.					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
1.9 Maintain the existing scale and pattern of the landscape with its characteristic mosaic of low limestone hills, woodlands, wetlands and mosses, pastures, limestones pavements, coastal cliffs and intertidal flats through development management and environmental land management schemes.	no adverse effect - international sites are not the main focus but such attention to landscape issues will also ensure maintenance of international habitat characteristics					
1.10 Establish a programme of sustainable hedgerow management and appropriate new hedgerow planting	no likely significant effect - care is required to ensure that such features are appropriate to the location and will not adversely impact upon notable species and habitats through loss or fragmentation of habitats. Provided this is the case, appropriate features are likely to enhance the overall biodiversity of international sites, though are unlikely to have any significant direct impact on any of the qualifying features					
1.11 Secure agri-environment transition funding for the AONB and NIA and influence targeting of new environmental land management scheme funding at delivery of AONB and NIA objectives	no adverse effect - potentially beneficial to international sites through improvement of habitats in the wider area which is then likely to enhance biodiversity and populations of qualifying species within international sites. Funding is overseen by Natural England who are also responsible for designated sites.					
1.12 Ensure agriculture and forestry continue to contribute positively to conservation of the AONB's special qualities by providing bespoke advice and hands on support to farmers and land managers to promote and encourage uptake of environment and land management grant schemes	no adverse effect - potentially beneficial in aiding appropriate grassland and woodland management to promote natural grassland and woodland flora	no adverse effect - potentially beneficial in aiding appropriate grazing/ exclusion of grazing (as appropriate) to saltmarsh sites	no adverse effect - potentially beneficial in aiding appropriate controlled grazing of key saltmarsh sites		no adverse effect - potentially beneficial in aiding appropriate grassland and woodland management to enhance habitat of wetland margins. Leighton Moss is already in Higher Level Stewardship (HLS) Scheme	

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
	Agri environment grant schemes fall under Natural England administration while woodland grant schemes fall under Forestry Commission administration. Actions are likely to be deemed necessary for nature conservation. Individual proposals affecting international sites will require an HRA					
1.13 Promote the importance of good soil management for carbon storage and water quality, ensuring this resource protection is given priority within agri-environment schemes	no adverse effect - potentially beneficial in ensuring that water quality feeding international sites is maintained/ enhanced, and water pollution via streams ditches or direct run-off is prevented or reversed					
1.14 Identify and progress further suitable sites for inclusion within the Undergrounding for Visual Amenity programme	no likely significant effect - no interaction					
1.15 Produce a biennial State of the AONB report	no adverse effect - potentially beneficial in providing a review of management and status of qualifying features for international sites which will guide future management prescriptions					
1.16 Review and update the AONB Landscape and Seascape Character Assessment	no likely significant effect - landscape not directly an issue for features of international sites, though such concerns are likely to be compatible with maintaining or enhancing key habitats					
1.17 Develop guidance on management of rural roads, highway improvement schemes, signage and street furniture appropriate to the AONB landscape	no likely significant effect - direct impact upon international sites unlikely, though consideration of potential pollution risks from road use would be beneficial					
1.18 Develop and deliver an enhanced programme of landscape monitoring linked to management plan indicators	no likely significant effect - landscape not directly an issue for features of international sites, though such concerns are likely to be compatible with maintaining or enhancing key habitats					

Objective 2: Deliver Integrated Coastal Zone Management within Morecambe Bay, ensuring conservation and enhancement of the natural beauty of the AONB coast

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
2.1 Ensure the North West Marine Plan takes account of the AONB Management Plan	no likely significant effect - no interaction	no adverse effect - potentially beneficial in providing consideration of coastal international sites within the Marine Plan to ensure their protection			no likely significant effect - no interaction	
2.2 Continue to engage with coastal fora such as North West Coastal Forum, Morecambe Bay Partnership and PISCES	no likely significant effect - no interaction	no adverse effect - potentially beneficial in providing consideration of international coastal sites within wider Morecambe Bay context to ensure their protection			no likely significant effect - no interaction	
2.3 Engage in the development of any coastal zone management and flood risk strategies or coastal defence strategies which are developed as part of delivery of Shoreline Management Plan 2	no likely significant effect - no interaction	no adverse effect - maintenance of certain important international habitats (e.g. saltmarsh) is also highly beneficial for flood-defence. Maintenance of existing hard defences is unlikely to significantly affect quality or extent of existing habitats, though care would need to be taken to ensure any work undertaken is timed to minimise disturbance to bird populations. Erection of any new hard defence is likely to be damaging and would require detailed review. In such event, a separate HRA would need to be produced by the Environment Agency			no adverse effect - Leighton Moss is at risk from saline intrusion. Delivery of the Shoreline Management Plan 2 will need to take into account impact on international sites, with a separate HRA produced as required	

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
2.4 Engage in any realignment and habitat creation or other studies as part of delivery of Shoreline Management Plan 2	no likely significant effect - no interaction	no adverse effect - not essential to maintenance of existing habitats but, if carried out appropriately, highly desirable to expand area of certain qualifying features	no adverse effect - not essential to maintenance of existing bird populations but, if carried out appropriately, highly desirable to expand area of habitat available to qualifying bird species		no likely significant effect - no interaction	

Objective 3: Understand and plan for the impacts of climate change on the special qualities of the AONB and deliver appropriate actions to mitigate against and adapt to these impacts

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
3.1 Complete a climate change adaptation plan for the AONB landscape.	no adverse effect - landscape not directly an issue for features of international sites, though consideration of climate change on landscape is likely also to positively address factors which could impact upon qualifying habitats and species					
3.2 Complete Coastal Biodiversity and Ecosystem Services (CBESS) project	no likely significant effect - no interaction	no adverse effect - potentially beneficial to consider impacts of climate change upon qualifying habitats (including species composition, responses to climatic factors, rising sea-levels and mitigating management) and to qualifying bird species behaviour and migration			no likely significant effect - no interaction	

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
3.3 Deliver appropriate land management related adaptation and mitigation actions identified in the adaptation plan	<p>no adverse effect - potentially beneficial to consider impacts of climate change upon qualifying habitats, including species composition, responses to climatic factors and mitigating management</p>	<p>no adverse effect - potentially beneficial to consider impacts of climate change upon qualifying habitats, including species composition, responses to climatic factors and mitigating management</p>	<p>no adverse effect - potentially beneficial to consider impacts of climate change upon qualifying bird species' habitats, behaviour and migration</p>			

Biodiversity and geodiversity

Objective 4: Enhance, restore and improve understanding of ecological networks at a landscape scale within the AONB and across the wider Morecambe Bay area

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
4.1 Successfully deliver the Morecambe Bay Limestones & Wetlands Nature Improvement Area programme (funded by Defra and Natural England)	no adverse effect - potentially beneficial to international sites through improvement of habitats in the wider area which is then likely to enhance biodiversity and populations of qualifying species within international sites					
4.2 Successfully deliver the Morecambe Bay Source to Sea programme funded by Environment Agency's Catchment Restoration Fund	no adverse effect - potentially beneficial for maintenance or enhancement of water quality entering international sites					
4.3 Successfully deliver the natural heritage elements of the Headlands to Headspace Landscape Partnership Scheme funded by the Heritage Lottery Fund	no likely significant effect - no interaction	no adverse effect - potential benefits for enhancement of qualifying habitats	no adverse effect - potential benefits for enhancement of habitats for qualifying bird species		no likely significant effect - no interaction	
4.4 Develop and deliver a series of new landscape scale projects to further improve and connect ecological networks across the Morecambe Bay area	no adverse effect - potentially beneficial to international sites through improvement of habitats in the wider area which is then likely to enhance biodiversity and populations of qualifying species within international sites					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
4.5 Develop a Morecambe Bay approach to biodiversity offsetting, securing planning gain and payments for ecosystem services	no adverse effect - potentially beneficial to international sites through improvement of habitats in the wider area which is then likely to enhance biodiversity and populations of qualifying species within international sites. Need to recognise that some habitats are effectively irreplaceable and cannot simply be offset. Offsetting due to loss of any international qualifying habitat or habitat required for qualifying species is likely to be damaging and would require detailed review					
4.6 Complete ecological network connectivity study for the Morecambe Bay area	no adverse effect - potentially beneficial to international sites through improvement of habitats in the wider area which is then likely to enhance biodiversity and populations of qualifying species within international sites					
4.7 Work together to develop and support activity of the Morecambe Bay Local Nature Partnership	no adverse effect - potentially beneficial to international sites through improvement of habitats in the wider area which is then likely to enhance biodiversity and populations of qualifying species within international sites. Individual proposals affecting international sites will require an HRA					

Objective 5: Make a significant contribution to Biodiversity 2020 outcomes by delivering conservation, enhancement, restoration and connectivity of the AONB's characteristic mosaic of habitats including woodlands, grasslands, and coastal and freshwater wetlands and taking targeted action for key priority species

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
5.1 Demonstrate improvements in the AONB Partnership's ecosystem approach to landscape management through use of criteria based check lists	no adverse effect - likely to be beneficial to international sites by considering conservation requirements of component biodiversity of qualifying habitats and of qualifying species					
5.2 Develop an AONB Biodiversity 2020 Local Delivery Plan	no adverse effect - likely to be beneficial to international sites by considering conservation requirements of component biodiversity of qualifying habitats and of qualifying species					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
5.3 Ensure that any plans, projects and actions take into account the conservation objectives of and where possible seek to enhance European designated sites within and adjacent to the area	no adverse effect - beneficial in ensuring consideration of potential impacts upon international site features caused by proposed work on or adjacent to this land. Many actions will enhance the international interest or be necessary to maintain particular features.					
5.4 Carry out regular condition monitoring of the AONB's SSSIs	no adverse effect - beneficial in providing an evaluation of current management regimes in maintaining/ enhancing international site qualifying features and guides future management proposals					
5.5 Ensure 100% of the AONB's SSSIs are in favourable or recovering condition by 2019 and take appropriate action to bring those SSSIs that are currently in recovering condition into favourable condition, so that at least 90% of SSSIs are in favourable condition by 2019.	no adverse effect - beneficial in ensuring that international sites will be managed to maintain or create favourable condition for their qualifying features. Many actions will enhance the international interest or be necessary to maintain particular features.					
5.6 Carry out condition monitoring of the AONB's County Wildlife Sites and aim to deliver positive management on all sites by 2019 by providing bespoke advice and support, negotiating management agreements and securing agri-environment or other grants	no likely significant effect - no direct interaction, although enhanced biodiversity in wider area may benefit quality of certain habitats	no likely significant effect - no interaction	no likely significant effect - no direct interaction, although enhanced quality and extent of inland feeding habitats is likely to benefit populations of certain qualifying feature bird species	no likely significant effect - no direct interaction, although enhanced quality and extent of habitats is likely to benefit populations of certain qualifying feature bird species		

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
5.7 Carry out research into connectivity that is applicable to the intimate scale of the AONB landscape	no likely significant effect- no direct interaction, although enhanced connectivity may benefit quality of certain habitats	no likely significant effect - no direct interaction, although enhanced connectivity to inland feeding habitats is likely to benefit populations of certain qualifying feature bird species			no adverse effect - while there is no direct interaction upon the site itself, connectivity with other suitable habitats is likely to be beneficial for enhancement of populations of certain qualifying feature bird species	
5.8 Establish a project to encourage the sensitive management of roadside trees and vegetation to enhance the wildlife and landscape value of verges and highway margins	no likely significant effect- no interaction. Appropriate management is likely to enhance the overall biodiversity of adjacent international sites, though is unlikely to have any significant direct impact on any of the qualifying features					
5.9 Produce good practice guidelines for owners of small plots of land and paddocks to reduce adverse landscape and habitat impacts caused by the keeping of horses	no likely significant effect- no known current interaction, though potentially an issue and welcome proposal dependent on future site ownership	no likely significant effect- no interaction				

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
5.10 Deliver enhancement of priority woodland habitats by encouraging uptake of woodland grant schemes with priority given to ancient semi-natural woodlands, woodlands which provide links between semi-natural habitats and woodlands known to support key butterfly populations	<p>no adverse effect - potentially beneficial in promoting enhancement of natural woodlands and in some cases may be essential for site maintenance.</p> <p>Individual proposals affecting international sites will require an HRA</p>	<p>no likely significant effect- no interaction</p>				

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
5.11 Expand the current programme of coppice management working with the local Coppice Cooperative	<p>no adverse effect - potentially beneficial to enhance structural diversity of qualifying feature woodlands.</p> <p>Works affecting international sites will require an individual HRA</p>	<p>no likely significant effect- no interaction</p>				
5.12 Implement the Arnside and Silverdale Woodlands Forest Design Plan	<p>no adverse effect - potentially beneficial to enhance quality of qualifying feature woodlands.</p> <p>Works affecting international sites will require an individual HRA</p>	<p>no likely significant effect- no interaction</p>				

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
5.13 Retain, improve and expand areas of priority grassland habitat including calcareous grassland, hay meadows and other areas of herb-rich pasture within and around the AONB	no adverse effect - potentially beneficial to enhance quality and extent of calcareous grasslands. Works affecting international sites will require an individual HRA		no likely significant effect- no interaction			
5.14 Implement conservation grazing on appropriate sites to manage areas of calcareous grassland, hay meadows and other areas of herb-rich pasture by supporting appropriate conservation grazing initiatives	no adverse effect - potentially beneficial to enhance quality and extent of calcareous grasslands. Activities affecting international sites will require an individual HRA	no adverse effect - potentially beneficial to enhance quality of grazed saltmarsh. Activities affecting international sites will require an individual HRA	no adverse effect - potentially beneficial to enhance quality of grazed saltmarsh for qualifying bird species. Activities affecting international sites will require an individual HRA	no likely significant effect- no interaction		

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
5.15 Retain, improve and expand priority freshwater wetland habitats including wet grassland, moss and fenland, and reedbed within and around the AONB in particular the programme of reedbed enhancement at Leighton Moss	no adverse effect - potentially beneficial to enhance quality of lake habitat at Hawes Water. Works affecting international sites will require an individual HRA	no likely significant effect - no interaction	no likely significant effect - no interaction		no adverse effect - potentially beneficial to enhance quality and extent of habitat for qualifying bird species. Works affecting international sites will require an individual HRA	
5.16 Conserve and enhance priority coastal habitats including saltmarsh, coastal and floodplain grazing marsh and maritime cliffs and slopes and mudflats	no likely significant effect - no interaction	no adverse effect - potentially beneficial to enhance quality and extent of qualifying feature habitats. Works affecting international sites will require an individual HRA	no adverse effect - potentially beneficial to enhance quality and extent of habitats for qualifying bird species. Works affecting international sites will require an individual HRA		no likely significant effect - no interaction	

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
5.17 Deliver the Morecambe Bay European Marine Site Management Scheme Action Plan (2012-2015) and successor plans and implement relevant fishery orders to effectively manage shellfishing activity in Morecambe Bay and ensure potential impacts on the AONB are minimised.	no likely significant effect - no interaction	no adverse effect - potentially beneficial to ensure maintenance of the mud and sand flats biodiversity. Works affecting international sites will require an individual HRA	no adverse effect - potentially beneficial to ensure maintenance of the food resources for qualifying bird species. Works affecting international sites will require an individual HRA		no likely significant effect - no interaction	
5.18 Promote connectivity by providing linkages, corridors and stepping stones in the landscape	no likely significant effect - no direct interaction, although enhanced connectivity may benefit quality of certain habitats	no likely significant effect - no interaction	no likely significant effect - no direct interaction, although enhanced connectivity to inland feeding habitats is likely to benefit populations of certain qualifying feature bird species		no adverse effect - while there is no direct interaction upon the site itself, connectivity with other suitable habitats is potentially beneficial for enhancement of populations of certain qualifying feature bird species	
5.19 Develop new opportunities to enhance, restore and connect priority habitats						no adverse effect - potentially beneficial for enhancement or restoration of qualifying habitats or of habitats which support qualifying species

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
5.20 Carry out regular deer census counts and implement an appropriate deer management plan through the work of the Deer Initiative and Arnside and Burton Deer Management Group	no adverse effect- may limit browsing of woodland regeneration in some instances. Managed through landowner consents which require Natural England consultation	no likely significant effect - no interaction				
5.21 Establish baseline for degraded ecosystems and progress work to address the issues including restoring plantations on ancient woodland sites (PAWs)	no adverse effect - potentially beneficial to international sites in aiding restoration of any degraded qualifying habitats or habitats required to support qualifying species. Works affecting international sites will require an individual HRA					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
5.22 Ensure appropriate restoration proposals for Middlebarrow and Sandside Quarries	<p>no adverse effect - restoration of Middlebarrow quarry likely to have a positive impact on the biodiversity of the adjacent Middlebarrow SSSI (a component of the Morecambe Bay Pavements SAC). Any work impacting directly upon the SAC would require an independent HRA</p>	<p>no likely significant effect - potentially beneficial through general enhancement of biodiversity in the wider area around international sites</p>				
5.23 Support and implement appropriate Species Recovery Programmes e.g. Lady's-slipper orchid, following good practice guidance for species release and (re)introduction	<p>no likely significant effect - not essential for feature habitats but potentially beneficial to its biodiversity. Works affecting international sites will require an individual HRA</p>					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
5.24 Develop and deliver a significant new funded programme of woodland management at target sites to conserve High Brown Fritillary and Pearl-bordered Fritillary butterflies	no likely significant effect - not essential to the maintenance of qualifying limestone habitats but beneficial to their biodiversity. Works affecting international sites will require an individual HRA		no likely significant effect - no interaction			
5.25 Develop new opportunities for projects which take specific targeted action to benefit priority species	no adverse effect - not essential to the maintenance of qualifying habitats but potentially beneficial to their biodiversity. Works affecting international sites will require an individual HRA		no adverse effect - potentially beneficial to certain populations of qualifying bird species. Works affecting international sites will require an individual HRA	no adverse effect - likely to be desirable for certain qualifying bird species in order to retain/ enhance their populations. Works affecting international sites will require an individual HRA		
5.26 Develop and support conservation and research initiatives with a focus on NERC section 41 priority species	no adverse effect - potentially would enhance biodiversity of habitats		no adverse effect - potentially benefiting certain qualifying bird species			

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
5.27 Monitor red squirrel sightings	<p>no likely significant effect - potentially beneficial to woodland biodiversity and useful data, but long-term re-colonisation unlikely at this time</p>	<p>no likely significant effect - no interaction</p>				
5.28 Develop and support the apiary at Yealand Redmayne	<p>no likely significant effect - no significant interaction</p>					
5.29 Develop a list of species characteristic to the AONB to include nationally and locally important species and relevant management actions to benefit them	<p>no adverse effect - not directly essential in that key features for international sites are already identified. However, identification of important species within the wider AONB and appropriate management is likely to enhance populations which are either qualifying species or which contribute to the biodiversity of qualifying habitats</p>					
5.30 Develop and deliver an enhanced programme of monitoring where the need is identified	<p>no adverse effect - potentially beneficial to assess the effects of current management regimes upon qualifying features and inform future management proposals</p>					
5.31 Support the continued work of biological records centres	<p>no adverse effect - beneficial contribution to monitoring programme which aids evaluation of qualifying habitats and species populations at a county or national level</p>					
5.32 Develop and deliver B-Lines Initiative to provide connectivity of pollination habitat	<p>no adverse effect - potentially beneficial by enhancing the biodiversity in the vicinity of international sites and increasing abundance of invertebrate prey for certain qualifying species. Works affecting international sites will require an individual HRA</p>					

Objective 6: Prevent introduction of, halt the spread of and where appropriate eradicate, invasive non-native species and plant diseases

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
6.1 Develop programmes of activity to encourage eradication of Himalayan Balsam, Japanese Knotweed and other INNS within the AONB as part of wider initiatives	no adverse effect - potentially beneficial in preventing/controlling the spread of invasive species onto international sites. However, carrying out the work could potentially involve short-term damaging impacts and therefore works affecting international sites will require an individual HRA					
6.2 Establish a rapid response plan and programme of activity to report, monitor and raise awareness of biosecurity and INNS within the AONB	no adverse effect - potentially beneficial in preventing/controlling the spread of invasive species onto international sites					
6.3 Implement a programme to eradicate cotoneaster and buddleia on coastal margins as part of H2H	no adverse effect - potentially beneficial in preventing/controlling the spread of invasive species onto international sites				no adverse effect - no interaction	
6.4 Protect and monitor tree health with a focus on <i>Chalara</i> and <i>Phytophthora</i> through implementation of tree surveys and disease action plans	no adverse effect - potentially beneficial aid to protection of key natural woodland components of qualifying feature woods	no adverse effect no interaction				
6.5 Follow good practice guidance for species release and (re)introduction	no adverse effect - potentially beneficial to guard against inappropriate releases on international sites					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
6.6 Contribute to grey squirrel control in accordance with recognised red squirrel conservation strategy and guidance from the Red Squirrels Northern England partnership	<p>no likely significant effect</p> <p>- no direct interaction with key features. Red squirrel re-colonisation unlikely now without significant adverse impact on woodland composition</p>	<p>no likely significant effect - no interaction</p>				

Objective 7: Make a significant contribution to delivery of the Water Framework Directive by improving water quality in and around the AONB and Morecambe Bay

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
7.1 Deliver the reviewed Diffuse Water Pollution Plan for the Leighton Moss and Hawes Water catchment	no adverse effect - potentially beneficial for maintenance/ enhancement of water quality entering Hawes Water	no likely significant effect - no interaction			no adverse effect - actions targeted to enhance water quality entering the site, upon which international features depend and therefore necessary for maintenance of the site	
7.2 Deliver the Morecambe Bay Source to Sea programme funded by Environment Agency's Catchment Restoration Fund	no adverse effect - actions targeted to enhance water quality entering the site, upon which international features depend and therefore necessary for maintenance of the site					
7.3 Implement the Catchment Sensitive Farming initiative within the AONB	no adverse effect - potentially beneficial for maintenance/ enhancement of water quality entering international sites					
7.4 Investigate water quality issues on Leighton Beck	no likely significant effect - no interaction?					
7.5 Expand and improve programme of water quality monitoring in and around the AONB under the requirements of the WFD enabling appropriate measures to be defined and delivered to meet WFD targets	no adverse effect - potentially beneficial for maintenance/ enhancement of water quality entering international sites					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
7.6 Develop new opportunities to tackle issues of point source pollution from the outflow of effluent from septic tanks and diffuse groundwater pollution due to agricultural activity and other forms of nitrogen enrichment	no adverse effect - potentially beneficial for maintenance/ enhancement of water quality entering international sites					
7.7 Carry out measures to ensure beaches around Morecambe Bay achieve new EU bathing water standards through successful delivery of the Love my Beach programme	no likely significant effect - no interaction	no adverse effect - potentially beneficial for maintenance/ enhancement of water quality entering Morecambe Bay			no likely significant effect - no interaction	
7.8 Deliver improved standards of water quality for all river catchments that feed into the Bay ensuring that River Basin Management Plans reflect the importance of the estuaries and the Bay as designated wildlife sites	no adverse effect - potentially beneficial for maintenance/ enhancement of water quality entering international sites					

Objective 8: Conserve geodiversity and increase awareness and understanding of how it has led to the evolution of the AONB's distinctive landscape and biodiversity

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
8.1 Carry out condition monitoring of the AONB's geological SSSIs and ensure all are maintained in favourable condition	no likely significant effect - no interaction					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
8.2 Ensure conservation of statutory (SAC, SSSI, LNR, LPO) and non statutory (LGS) sites of geological and geomorphological value through development management and appropriate land management	no adverse effect - conservation of geological interest (notably limestone pavements) likely to be entirely compatible with and beneficial to the biological interest	no likely significant effect - no interaction				
8.3 Ensure effective monitoring and enforcement of Limestone Pavement Orders	no adverse effect - beneficial to the maintenance of limestone pavements at international sites which are a qualifying feature	no likely significant effect - no interaction				
8.4 Publish a Geodiversity Action Plan for the AONB and develop a new geodiversity project to contribute to its implementation	no adverse effect - likely to be entirely compatible with and beneficial to the biological interest	no likely significant effect - no interaction				

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
8.5 Publish a series of 'geo-trails' to enable discovery of the AONB's geological features	no adverse effect - assuming use of existing footpaths and provision of guidance for responsible activities, this is unlikely to add significantly to visitor pressure at international sites	no adverse effect - assuming use of existing footpaths and provision of guidance for responsible activities (including avoidance of disturbance to breeding, roosting and feeding birds), this is unlikely to add significantly to visitor pressure at international sites	no likely significant effect - no interaction			

Historic landscape

Objective 9: Conserve, enhance and improve understanding of historic landscape character and features and the area's cultural heritage

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
9.1 Reduce the overall number of heritage assets that are 'at risk' or vulnerable of becoming so	no likely significant effect - probably no interaction, though maintenance of any heritage features which may be present is unlikely to have significant impact upon international qualifying features					
9.2 Develop and implement Conservation Area Management Plans and research and designate new Conservation Areas, with Arnside as a priority	no likely significant effect - no interaction					
9.3 Safeguard the long-term future of industrial archaeology and industrial heritage sites and features within the AONB through environmental land management schemes and development management and develop interpretation on the AONB's industrial archaeology	no likely significant effect - probably no interaction, though safeguarding of any archaeological/ industrial features which may be present is unlikely to have significant impact upon international qualifying features					
9.4 Develop and deliver small-scale restoration projects that conserve and enhance features such as drystone walls, ponds, wells, limekilns and other distinctive heritage features (and features within the walls such as water troughs, milk stands, bee boles, deer leaps) that make a special contribution to the cultural heritage and historic environment	no likely significant effect - probably no interaction, though such small-scale work which may be required is unlikely to have significant impact upon international qualifying features					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
9.5 Ensure the conservation and protection of Scheduled Monuments and other designated heritage assets in the AONB in line with conservation objectives and secure appropriate local management for example through management agreements	no likely significant effect - no interaction					
9.6 Develop new opportunities to improve the condition of listed buildings, in particular to consider new Heritage Partnership Agreements as appropriate	no likely significant effect - no interaction					
9.7 Encourage the conservation and restoration of existing orchards through environmental land management schemes and development management	no likely significant effect - no interaction					
9.8 Develop an orchard project that seeks to restore existing orchards, identifies appropriate sites for planting, including new and derelict sites and raises awareness of the conservation and importance of orchards	no likely significant effect - no interaction					
9.9 Conserve and enhance the form and character of the historic field patterns, particularly in the vicinity of Beetham, Hale, the Yealands and Warton through development management and agri-environment schemes	no likely significant effect - no interaction					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
9.10 Continue to provide advice and practical support to land managers and others to achieve positive management and better understanding of the historic landscape and cultural heritage of the AONB through environmental land management schemes	no likely significant effect - no interaction					
9.11 Carry out further research into historic designed landscapes	no likely significant effect - no interaction					
9.12 Support research into the archaeology and history of the AONB	no likely significant effect - no interaction					
9.13 Encourage the retention and appropriate management of parkland through development management and environmental land management schemes. Provide advice on conserving and enhancing parkland, including succession management, avoiding damaging agricultural activity, improving biodiversity and parkland restoration	no likely significant effect - no interaction					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
9.14 Encourage the conservation and management of veteran and specimen trees and clumps of trees (and succession planning and planting for mature and veteran trees), to maintain and enhance the distinctive character of parkland and other locally important landscapes through development management and environmental land management schemes	no adverse effect - if such trees are present then conservation management would benefit the structural diversity of qualifying woodland habitats	no likely significant effect - no interaction				
9.15 Encourage the retention and appropriate management of historic designed landscapes such as Mawson gardens and other significant historic designed landscapes/gardens and the conservation and where possible restoration of their design integrity and built features through development management and other mechanisms	no likely significant effect - no interaction					
9.16 Prepare Local Heritage Lists as part of the AONB Development Plan Document to ensure that sites of importance within the AONB are recognised and recorded	no likely significant effect - no interaction					
9.17 Identify and assist community groups in preserving written, oral, illustrative and photographic records to better preserve and share the cultural heritage of the AONB as part of Leighton Moss 50 th anniversary project	no likely significant effect - no interaction				no likely significant effect - may be beneficial in aiding some management considerations but not essential	

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
9.18 Complete national archaeological identification survey work	no likely significant effect - no interaction					
9.19 Develop and deliver a 'Villages of the AONB' events programme	no likely significant effect - no interaction					
9.20 Deliver a programme of research and restoration at Warton Crag hill fort as part of the Headlands to Headspace programme	no likely significant effect - no interaction					

Development management

Objective 10: Implement a development planning approach that delivers services, infrastructure and affordable housing to meet local community need whilst conserving and enhancing landscape character and the special qualities of the AONB

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
10.1 As a companion document to the AONB Management Plan, prepare and adopt a dedicated Development Plan Document for the Arnsdale & Silverdale AONB that properly reflects the purposes of AONB designation and that fulfils the obligations relating to AONBs as set out in the National Planning Policy Framework (see Management Plan section 1.9 for more detail of what the DPD will seek to achieve) (see also Action 1.2)	no adverse effect - international sites are not the focus of this document but it is highly likely that these sites will benefit through consideration of the AONB designation as a whole. The Local Authority has a duty to ensure any development is compatible with the interest of international sites. The Development Plan Document will need to respect the international sites and an independent HRA will be required for the Plan as a whole as well as separate HRAs for any individual developments which may impact upon one or more of the international sites.					
10.2 Develop and adopt a Design Guide for the AONB	no likely significant effect - no interaction					
10.3 Carry out a new affordable housing needs survey	no likely significant effect - no interaction					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
10.4 Ensure all development management decisions relating to proposals within the AONB and those beyond the boundary which could impact on the setting and views out from the AONB, seek to reinforce landscape character and conserve biodiversity, geodiversity and the historic environment, having regard to the AONB Management Plan, Arnside & Silverdale Landscape and Seascape Character Assessment and the Morecambe Bay Limestones National Character Area (see also Action 1.1)	no adverse effect - beneficial in ensuring regard to biodiversity issues, including international features, for all development					
10.5 Ensure appropriate enforcement of planning decisions and conditions	no adverse effect - beneficial in ensuring regard to biodiversity issues, including international features, for all development					

Supporting rural growth and livelihoods

Objective 11: Maximise opportunities for the AONB's designation, special qualities and management to both drive and support sustainable rural economic growth

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
11.1 Support the development and activities of local business hubs and clusters such as Arnside Business and the Community Group	no likely significant effect - no interaction					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
11.2 Actively engage with Cumbria and Lancashire Local Economic Partnerships to develop new opportunities to facilitate growth linked to the natural environment	no adverse effect - possible benefits if linked to funding conservation management					
11.3 Investigate potential to set up a small grants fund/ loan scheme to support local businesses that directly conserve and enhance the special qualities of the area and/or facilitate quiet enjoyment	no adverse effect - possible benefits if linked to funding conservation management					
11.4 Encourage local businesses and individuals to access high quality business development advice and start-up grants and loans by signposting to relevant agencies and facilitating links with advisors	no likely significant effect - no interaction					
11.5 Develop links with local businesses to encourage mutually beneficial partnerships such as sponsorship	no adverse effect - possible benefits if linked to funding conservation management					
11.6 Provide information and support to creative, knowledge based business	no likely significant effect - no interaction					
11.7 Support growth of social enterprises linked to natural beauty which bring social/environmental benefits	no adverse effect - possible benefits if linked to funding conservation management but need to ensure that any actions impacting upon international sites are entirely positive and include promotion of informed behaviour. Actions on international sites will require a specific HRA					
11.8 Support sensitive diversification and reuse of rural buildings to provide business/employment opportunities with no detrimental impact on historic character	no likely significant effect - no interaction					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
11.9 Develop a Sense of Place toolkit to assist businesses in harnessing the opportunities provided by the unique landscape of the AONB and wider Morecambe Bay area	no adverse effect - possible benefits if linked to funding conservation management but need to ensure that any actions impacting upon international sites are entirely positive and include promotion of informed behaviour. Actions on international sites will require a specific HRA					
11.10 Promote local businesses and use of local services and facilities in all relevant AONB communications	no likely significant effect - no interaction					
11.11 Ensure good quality information is available to and distributed to businesses regarding the special qualities of the AONB and how to enjoy them	no adverse effect - assuming 'good quality' means promoting informed behaviour					

Objective 12: Support and encourage sustainable production and use of local products, especially those linked to natural beauty

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
12.1 Establish and promote a local woodfuel network to enable and encourage residents to source high quality locally produced woodfuel	<p>no adverse effect - possible benefits through providing commercial purpose for appropriate woodland management.</p> <p>Projects impacting upon international sites will require individual HRA to ensure sympathetic extraction</p>	<p>no likely significant effect - no interaction</p>				

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
12.2 Develop a local products initiative to encourage production and promotion of local products, including coppice products and woodland crafts and locally produced food and farm produce	no adverse effect - possible benefits through providing commercial purpose for appropriate woodland management. Projects impacting upon international sites will require individual HRA to ensure works carried out do not damage the interest features	no likely significant effect - no interaction				
12.3 Support arts and crafts businesses to inspire others and contribute to community life and tourism by organising and promoting the Silverdale & Arnside Arts Trail	no likely significant effect - no interaction					
12.4 Encourage businesses which provide educational/knowledge based consultancy	no likely significant effect - no interaction					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
12.5 Promote locally sourced and sustainable Morecambe Bay fishery products, including cockles once the new Hybrid Fishery Order is in place	no likely significant effect - no interaction	no adverse effect - regulation of fisheries essential to maintain the biodiversity of the mud and sand flats. Local fisheries acceptable/ desirable provided appropriate restrictions in place. The Order will have its own HRA which will have to respect the site's international interest	no adverse effect - regulation of fisheries essential to maintain the food resources for qualifying bird species. Local fisheries acceptable/ desirable provided appropriate restrictions in place. The Order will have its own HRA which will have to respect the site's international interest		no likely significant effect - no interaction	

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
12.6 Seek to develop and promote local venison products in collaboration with the Deer Initiative and relevant landowners	<p>no adverse effect - control of deer may limit browsing of woodland regeneration in some instances. Managed through landowner consents which require Natural England consultation</p>					

Objective 13: Provide opportunities to access training and employment and build the skills base in sectors related to the purposes of designation such as land management and tourism

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
13.1 Deliver an annual programme of land management and rural skills training and events	no adverse effect - potentially beneficial in providing and sharing knowledge and skills necessary for appropriate site management to maintain/ enhance qualifying habitats and species					
13.2 Host training and competition events promoting traditional rural skills such as hedgelaying and drystone walling	no likely significant effect - no interaction					
13.3 Develop an AONB apprenticeship programme	no adverse effect - potentially beneficial in providing additional skills/ knowledge/ labour for appropriate site management to maintain/ enhance qualifying habitats and species					
13.4 Offer internships within the AONB	no adverse effect - potentially beneficial in providing additional skills/ knowledge/ labour for appropriate site management to maintain/ enhance qualifying habitats and species					

Objective 14: Actively support landowners and managers to sustainably manage the landscape, delivering environmental and economic benefits for themselves and the wider community

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
14.1 Provide bespoke advice and practical support to encourage landowners and managers to apply for grants through the environmental land management scheme and other rural development schemes	no adverse effect - potentially beneficial in encouraging and guiding positive conservation management of international sites by landowners. Where works may impact upon international sites, individual applications will receive a HRA from Natural England					
14.2 Seek to link up fruit growers and suppliers both in and outside the AONB boundary to develop traditional fruit growing activity	no likely significant effect - no interaction					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
<p>14.3 Deliver a programme of activity to support the local woodfuel economy and establish short woodfuel supply chains within the AONB, participating in national collaboration project on social forestry</p>	<p>no adverse effect - possible benefits through providing commercial purpose for appropriate woodland management. Projects impacting upon international sites will require individual HRA to ensure sympathetic extraction</p>	<p>no likely significant effect - no interaction</p>				

Objective 15: Encourage infrastructure improvements to achieve high(er) speed Broadband and mobile phone signal coverage for the whole of the AONB without a significant adverse impact on natural beauty

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
15.1 Support positive action to achieve the roll-out of superfast broadband, ensuring the sensitive siting of necessary infrastructure	no likely significant effect - no interaction					
15.2 Support positive action to improve mobile phone signal within the AONB, ensuring the sensitive siting of necessary infrastructure	no likely significant effect - no interaction					

Sustainable visitor economy

Objective 16: Develop the AONB and Morecambe Bay area as a sustainable tourism destination where visitors can have high quality experiences of nature, culture and quiet recreation, and tourism contributes to the conservation of the area's special qualities

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
16.1 Adopt an integrated and strategic approach to the management of sustainable tourism in the AONB and wider Morecambe Bay area	no adverse effect - provided this includes proper regard to the concerns of the international sites. Potential benefits in education to promote nature conservation value		no adverse effect - provided this includes proper regard to the concerns of the international sites. Potential benefits in education to promote nature conservation value and to limit disturbance of breeding, feeding and roosting birds		no adverse effect - provided this includes proper regard to the concerns of the international sites. Potential benefits in education to promote nature conservation value	
16.2 Develop and implement a sustainable visitor economy strategy for the AONB as part of the wider Morecambe Bay area	no adverse effect - provided this includes proper regard to the concerns of the international sites. Potential benefits in education to promote nature conservation value					
16.3 Develop a web marketing platform to promote sustainable tourism experiences and businesses within the AONB	no likely significant effect - no interaction					
16.4 Carry out a visitor survey every two years	no likely significant effect - no interaction					
16.5 Provide practical support to enable businesses to achieve the Green Tourism Business Scheme awards and other appropriate sustainable tourism accreditation schemes	no likely significant effect - no interaction					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
16.6 Maintain the AONB Partnership's Green Tourism Business Scheme membership	no likely significant effect - no interaction					
16.7 Deliver a visitor payback package that enables tourism to benefit communities and enhancement of the area	no likely significant effect - no interaction					
16.8 Successfully deliver the 700 days programme, Morecambe Bay's Coastal Communities Fund scheme	no likely significant effect - no interaction	no adverse effect - potential significant benefits to Morecambe Bay. Individual actions will require a HRA			no likely significant effect - no interaction	
16.9 Build capacity of the Morecambe Bay Nature Tourism Network	no likely significant effect - no interaction					
16.10 Develop and promote nature tourism itineraries to facilitate wider enjoyment and appreciation of the special qualities of the area	no likely significant effect - though education to limit habitat damage would be beneficial	no likely significant effect - though education to limit disturbance of breeding, feeding and roosting birds would be beneficial		no likely significant effect - site already caters well for visitors		
16.11 Maintain regular contact with organisations engaged with pre-arrival marketing of the AONB/Morecambe Bay area, ensuring appropriate promotion of AONB activities and events	no likely significant effect - no interaction					
16.12 Promote both the new Morecambe Bay Cycle Way and the England Coast Path, when they are established, and work with tourism businesses to enable them to benefit from these schemes	no likely significant effect - no interaction	no adverse effect - activities will need to respect the qualifying features of the international sites. In particular, care should be taken to avoid sites which regularly support breeding, feeding or roosting of qualifying bird species. A separate HRA will be produced by Natural England			no likely significant effect - no interaction	

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
16.13 Develop a marketing and communications plan for the AONB linking to the emerging wider Morecambe Bay marketing/branding strategy	no likely significant effect - no direct interaction with international sites and their qualifying features, though there may be benefits from increased interest in nature conservation including international sites					
16.14 Develop an AONB Visitor Charter	no likely significant effect - no interaction with international sites and their qualifying features, though there may be benefits from increased interest in nature conservation including international sites					
16.15 Promote the AONB for walkers and encourage 'Welcome to Walkers' schemes	no adverse effect - promotion should include guidance to respect the qualifying features of the international sites and avoid erosion/disturbance of qualifying habitats and species.					

Objective 17: Coordinate action to minimise both terrestrial and marine litter

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
17.1 Carry out monthly litter picks throughout the AONB	no adverse effect - can only help to maintain value of habitats	no adverse effect - particularly beneficial for marine wildlife, so improves coastal habitats and removes risks to individual birds			no likely significant effect - litter removal undertaken as part of reserve management	
17.2 Identify local sources of marine litter and seek to raise awareness and act where possible to remove these sources through the Love my Beach programme and carrying out regular beach cleans	no likely significant effect - no interaction	no adverse effect - removal of litter is particularly beneficial for marine wildlife so improves coastal habitats and removes risks to individual birds. Potential risks of disturbance to habitats and species during execution of work so programme will require an independent HRA			no likely significant effect - no interaction	
17.3 Act promptly to remove fly tipping	no adverse effect - while not anticipated to be a particular issue at any of the international sites, such work would potentially be beneficial in preventing rapid deterioration of habitats					

Objective 18: Monitor and manage recreational pressure to avoid and/or reduce detrimental impacts on the special qualities of the AONB

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
18.1 Review existing car parking survey data and develop a revised survey programme to better target hot spot areas	no likely significant effect - no direct interaction with international sites and their qualifying features, though potentially beneficial to guide visitors away from sensitive areas					
18.2 Seek to provide sensitively sited and landscaped new car parking that is supported by the local community with Arnside as a priority	no likely significant effect - no direct interaction with international sites and their qualifying features, though potentially beneficial to guide visitors away from sensitive areas				no likely significant effect - presumably no interaction as car parking facilities provided as part of reserve management	
18.3 Monitor environmental impacts at key visitor locations and implement appropriate management/mitigation measures as part of site management plans if necessary	no adverse effect - potentially beneficial to guide visitors away from sensitive areas and promote more robust areas					
18.4 Complete recreational disturbance study through Coastal Communities Fund project and implement recommended measures	no likely significant effect - no interaction	no adverse effect - beneficial to guard against excessive erosion of habitats	no adverse effect - potentially beneficial to guard against frequent disturbance to feeding and roosting bird populations		no likely significant effect - no interaction	
18.5 Deliver Headlands 2 Headspace natural ambassadors project	no likely significant effect - no interaction	no adverse effect - potential benefits for enhancement of qualifying habitats	no adverse effect - potential benefits for enhancement of habitats for qualifying bird species and increased awareness of the sensitivities of bird sites		no likely significant effect - no interaction	

Sustainable communities

Objective 19: Support local communities in moving towards sustainable low carbon living

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
19.1 Continue to promote public transport, and link events and activities to public transport wherever possible	no likely significant effect - no direct interaction with international sites and their qualifying features, though potentially beneficial in reducing atmospheric pollution and contaminated road run-off					
19.2 Promote cycling and walking as alternatives to using private cars wherever possible	no likely significant effect - no direct interaction with international sites and their qualifying features, though potentially beneficial in reducing atmospheric pollution and contaminated road run-off					
19.3 Facilitate and support local groups/projects taking action to shift to low carbon and more sustainable living	no likely significant effect - no direct interaction with international sites and their qualifying features, though potentially beneficial in reducing atmospheric pollution					
19.4 Support small-scale renewable energy generation schemes and local energy conservation initiatives which are compatible with AONB designation	no likely significant effect - no direct interaction with international sites and their qualifying features, though potentially beneficial in reducing atmospheric pollution					
19.5 Promote energy and water efficiency measures in any new development within the AONB	no likely significant effect - no direct interaction with international sites and their qualifying features, though potentially beneficial in reducing atmospheric pollution					
19.6 Support further community schemes under the Bittern CCIC Solar Panel Initiative	no likely significant effect - no direct interaction with international sites and their qualifying features, though potentially beneficial in reducing atmospheric pollution					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
19.7 Provide support for development of a local community woodfuel initiatives	no adverse effect - possible benefits through providing commercial purpose for appropriate woodland management	no likely significant effect - no direct interaction				

Objective 20: Increase opportunities for visitors and local people to maximise their use of sustainable and integrated transport

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
20.1 Implement park and ride schemes for major events e.g. at Leighton Moss	no likely significant effect - no interaction					
20.2 Encourage organisers of major public events held in the AONB to establish effective links with the Train Service companies	no likely significant effect - no interaction					
20.3 Expand and develop the network of electric vehicle (both car and bike) charging points and bike hire facilities	no likely significant effect - no direct interaction with international sites and their qualifying features, though potentially beneficial in reducing atmospheric pollution and contaminated road run-off					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
20.4 Develop and promote the railway as a key public transport link as part of the H2H and CCF projects	no likely significant effect - no direct interaction with international sites and their qualifying features, though potentially beneficial in reducing atmospheric pollution and contaminated road run-off					
20.5 Support the improvement of facilities including disabled access, interpretation and linkages at Arnside, Silverdale and Carnforth stations in order to develop these stations as visitor arrival and information hubs	no likely significant effect - no direct interaction with international sites and their qualifying features, though potentially beneficial in encouraging further interest in nature conservation					
20.6 Support the future electrification of the Furness Line	no likely significant effect - no interaction	no likely significant effect - any works on the Arnside viaduct would need to consider issues of habitat and bird disturbance, but are unlikely to have any significant long term impacts. Works will require an individual HRA			no likely significant effect - no interaction	

Community and culture

Objective 21: Foster community vibrancy and culture linked to the AONB's strong sense of place

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
21.1 Encourage community participation in decision making by ensuring effective and inclusive consultation is carried out on all major AONB plans and strategies, in particular the AONB Development Plan Document and the next AONB Management Plan	no adverse effect - not essential for international site management but encourages greater interest and involvement					
21.2 Ensure effective community representation on the AONB Executive Committee	no adverse effect - not essential for international site management but encourages greater interest and involvement					
21.3 Support community-led groups and societies linked to the AONB's special qualities and develop new opportunities for collaborative working	no adverse effect - not essential for international site management but encourages greater interest and involvement					
21.4 Encourage collaborative working between the Parish Councils of the AONB	no adverse effect - not essential for international site management but encourages greater interest and involvement					

Enjoying and understanding

Objective 22: Provide high quality information and communications to enable people to enjoy and understand the special qualities of the AONB and the work of the AONB Partnership

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
22.1 Implement a strategic approach to communications linking to the AONB Family brand 'Landscape for Life', reviewing and updating the AONB branding and communications plan every two years	no likely significant effect - no interaction					
22.2 Maintain a high quality AONB website as the key information resource for visitors, local residents, partner organisations and other relevant audiences, ensuring it is accessible, customer focussed, well designed and regularly updated and has interesting and stimulating content	no likely significant effect - no direct interaction with international sites and their qualifying features, though valuable for promoting greater interest and involvement					
22.3 Maintain an active social media presence	no likely significant effect - no direct interaction with international sites and their qualifying features, though valuable for promoting greater interest and involvement					
22.4 Publish an AONB e-newsletter at least every 2 months	no likely significant effect - no direct interaction with international sites and their qualifying features, though valuable for promoting greater interest and involvement					
22.5 Produce, promote and distribute a range of interpretative communication materials about the AONB and its special qualities, including leaflets, banners and an app	no likely significant effect - not essential for management of international sites but valuable for promoting greater interest and involvement and potentially valuable for explaining management issues or highlighting sensitivity of features					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
22.6 Promote AONB events, activities and stories effectively through the media	no likely significant effect - no direct interaction with international sites and their qualifying features, though valuable for promoting greater interest and involvement					
22.7 Run a small information centre at the AONB Office to provide face-to-face advice and information for visitors and local residents	no likely significant effect - no direct interaction with international sites and their qualifying features, though valuable for promoting greater interest and involvement					
22.8 Deliver talks and presentations as required on the special qualities of the AONB and the work of the Partnership	no likely significant effect - no direct interaction with international sites and their qualifying features, though valuable for promoting greater interest and involvement					
22.9 Develop guidance to ensure a consistent approach to communicating about the AONB and its special qualities by other bodies	no likely significant effect - no direct interaction with international sites and their qualifying features, though valuable for promoting greater interest and involvement					
22.10 Work with Sight Advice to ensure that communications tools and materials follow accessibility guidelines	no likely significant effect - no direct interaction with international sites and their qualifying features, though valuable for promoting greater interest and involvement					
22.11 Continue to publish Keer to Kent as a source of information about the AONB and its special qualities	no likely significant effect - no direct interaction with international sites and their qualifying features, though valuable for promoting greater interest and involvement					
22.12 Develop interpretation to increase public awareness of the historic environment	no likely significant effect - no interaction					
22.13 Ensure interpretative structures are of a high quality, are well maintained, consistent in approach and reflect the character of the AONB	no likely significant effect - no direct interaction with international sites and their qualifying features, though valuable for promoting greater interest and involvement					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
22.14 Provide high quality information on good practice conservation management techniques and their importance in looking after the special qualities of the AONB	no adverse effect - potentially beneficial in providing additional skills/ knowledge/ labour for appropriate site management to maintain/ enhance international qualifying feature habitats and species					

Objective 23: Provide a series of opportunities for people to enjoy, learn about and celebrate the AONB's special qualities in a sustainable way

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
23.1 Offer a high quality annual events programme including guided walks, an annual festival and other events	no likely significant effect - no direct interaction with international sites and their qualifying features, though valuable for promoting greater interest and involvement					
23.2 Expand the provision of outdoor environmental education for schools and groups	no likely significant effect - currently no direct interaction with international sites and their qualifying features, though valuable for promoting greater interest and involvement. An independent HRA would be required if international sites are proposed for future use					
23.3 Develop enhanced links with local schools, colleges and universities, establishing the AONB as a focus for curriculum based activities and information and facilitating high quality research in the area	no adverse effect - potentially beneficial where research guides more effective management of international sites					
23.4 Develop an AONB Forest Schools programme	no likely significant effect - currently no direct interaction with international sites and their qualifying features, though valuable for promoting greater interest and involvement. An independent HRA would be required if international sites are proposed for future use					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
23.5 Explore opportunities for the AONB to become a resource for teacher training	no likely significant effect - no direct interaction with international sites and their qualifying features, though valuable for promoting greater interest and involvement					
23.6 Ensure participation and engagement by young people through AONB events and educational visits	no likely significant effect - no direct interaction with international sites and their qualifying features, though valuable for promoting greater interest and involvement					
23.7 Facilitate/support and promote activities in the countryside which promote good health and a sense of wellbeing, such as health walks and conservation volunteering activities, developing links with the health sector to maximise delivery of health benefits	no likely significant effect - no direct interaction with international sites and their qualifying features, though valuable for promoting greater interest and involvement					
23.8 Offer work experience placements for students within the AONB Team	no likely significant effect - no direct interaction with international sites and their qualifying features, though valuable for promoting greater interest and involvement					
23.9 Develop learning area of the AONB website	no likely significant effect - no direct interaction with international sites and their qualifying features, though valuable for promoting greater interest and involvement					
23. 10 Deliver at least one small scale project each year to interpret and celebrate the special qualities of the AONB	no likely significant effect - no direct interaction with international sites and their qualifying features, though valuable for promoting greater interest and involvement					

Objective 24: Maintain, improve and promote access and quiet recreational opportunities in a sustainable way for a diverse range of people

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
24.1 Develop the Arnside viaduct as a strategic cycle/walkway link between Arnside and Grange, securing funding for and carrying out a General Rail Infrastructure Project (GRIP) study as a first step	no likely significant effect - no interaction	no adverse effect - any works on the Arnside viaduct would need to consider issues of habitat and bird disturbance, but are unlikely to have any significant long term impacts. Potential impacts need to be addressed as part of independent HRA by consenting authority			no likely significant effect - no interaction	
24.2 Ensure that the Public Rights of Way and permissive path network is maintained and managed to a high standard	no adverse effect - current maintenance of existing footpaths has no significant impact on qualifying habitats and guides visitors away from more sensitive areas. Management at international sites beyond the current regime could potentially have impacts and would require an independent HRA	no adverse effect - maintenance of existing footpaths has no significant impact on qualifying bird habitats but effort should always be taken to avoid disturbance to breeding, feeding and roosting birds during repair work and to guide visitors away from sensitive areas. Management beyond the current regime could potentially have impacts and would require an independent HRA	no adverse effect - maintenance of existing footpaths has no significant impact on qualifying bird species and guides visitors away from more sensitive areas. Management beyond the current regime could potentially have impacts and would require an independent HRA			
24.3 Deliver a new Morecambe Bay Cycle Way through the 700 days scheme and improve cycling facilities within villages	no likely significant effect - no interaction					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
24.4 Identify new cycle routes and promote as downloadable routecards	no likely significant effect - no interaction					
24.5 Deliver the England Coast Path within the AONB working with owners and partner organisations to plan and implement a route which does not have significant detrimental impacts on key historic, geological and biodiversity assets	no likely significant effect - no interaction	no adverse effect - activities will need to respect the qualifying features of the international sites. In particular, care should be taken to avoid sites which regularly support breeding, feeding or roosting of qualifying bird species. A separate HRA will be produced by Natural England			no likely significant effect - no interaction	
24.6 Provide a wardening services for Trowbarrow and Warton Crag Local Nature Reserves	no likely significant effect - no interaction					
24.7 Produce 'Easy access' routes as downloadable routecards and promote them clearly	no likely significant effect - probably no interaction, but extremely unlikely to be any issues if "easy access" routes are promoted	no likely significant effect - probably no interaction, but extremely unlikely to be any issues if "easy access" routes are promoted. Need to ensure that any promotion includes information on responsible access and risks of bird disturbance		no likely significant effect - probably no interaction, but extremely unlikely to be any issues if "easy access" routes are promoted		
24.8 Explore possibilities to expand the bridleway network in a sensitive way to enhance the horse riding and off-road cycling experience within the AONB	no adverse effect - provided areas are avoided which are sensitive to erosion. Any upgrades to paths or expansion of the network around international sites would require an independent HRA	no adverse effect - provided areas are avoided where there is a risk of disturbance to breeding, feeding or roosting birds. Any upgrades to paths or expansion of the network around international sites would require an independent HRA		no likely significant effect - probably no interaction - no practical opportunities beyond existing causeway		

Objective 25: Encourage and promote responsible and safe enjoyment of the coast and countryside

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
25.1 Promote the Countryside Code by providing appropriate signage and including it in all relevant AONB publications	no likely significant effect - no direct implications for site management but valuable to encourage responsible behaviour in international sites and avoid damaging activities					
25.2 Facilitate roll out of 20mph speed limits within villages whilst ensuring signage is appropriate to its setting	no likely significant effect - no interaction					
25.3 Encourage dog owners to control their dogs closely and effectively (particularly on the intertidal zone, salt marsh and farmland) and clean up after their dogs by providing signage and raising awareness of the effects of disturbance of wildlife and farm animals	no adverse effect - beneficial to safeguard grazing stock required for management of qualifying habitats and limit disturbance to biodiversity		no adverse effect - beneficial essential to limit disturbance to breeding, feeding and roosting populations of qualifying bird species		no adverse effect - beneficial to limit disturbance to populations of qualifying bird species	
25.4 Retain the tidal bore warning system at Arnside as an effective warning for people of the dangerous fast incoming tide	no likely significant effect - no interaction	no likely significant effect - no significant impact on qualifying features			no likely significant effect - no interaction	
25.5 Promote coastal safety by ensuring effective signage is in place and projects such as Safer Sands are supported plus coastal safety leaflet for local schoolchildren	no likely significant effect - no interaction	no likely significant effect - no impact on qualifying features			no likely significant effect - no interaction	
25.6 Encourage coordinated activity to tackle wildlife crime	no adverse effect - beneficial to safeguard international sites against illegal activities					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
25.7 Deliver appropriate signage to raise awareness of sensitivity of certain areas/sites so visitors understand any restrictions in place such as at Warton Saltmarsh	no adverse effect - beneficial to guard against disturbance of any particularly sensitive habitats	no adverse effect - potentially beneficial to guard against disturbance to breeding, feeding and roosting bird populations		no likely significant effect - access contained to pathways as part of reserve management		
25.8. Encourage appropriate use of bridleways and the quiet road and lanes network by cyclists	no adverse effect - promoting responsible use of existing bridleways where these occur on international sites					

Taking action

Objective 26: Support and build the capacity of community-led organisations which directly support the conservation of the AONB

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
26.1 Build the capacity of and support for the Arnsdale & Silverdale AONB Landscape Trust to deliver a programme of conservation management work and awareness raising	no likely significant effect - no direct interaction with international sites and their qualifying features, though valuable for promoting greater interest and involvement					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
26.2 Build the capacity of and support for the Bittern Countryside Community Interest Company to deliver a programme community based sustainable development work in and around the area	no likely significant effect - no direct interaction with international sites and their qualifying features, though valuable for promoting greater interest and involvement					

Objective 27: Provide a series of opportunities for people to volunteer and get actively involved in looking after and supporting the conservation of the AONB's special qualities

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
27.1 Run an AONB Volunteer Programme with a focus on an annual programme of weekly practical tasks which provides a professional service of habitat and access management	no adverse effect - potentially beneficial in providing additional skills/ knowledge/ labour for appropriate site management to maintain/ enhance qualifying habitats and species. Works affecting international sites will require an individual HRA					
27.2 Establish and support community-led volunteer groups which take action to conserve and enhance key sites	no adverse effect - potentially beneficial in providing additional skills/ knowledge/ labour for appropriate site management to maintain/ enhance qualifying habitats and species. Works affecting international sites will require an individual HRA					
27.3 Provide new opportunities for public involvement in the management of the local historic environment	no likely significant effect - no interaction					
27.4 Deliver and promote other volunteering programmes within the AONB led by key partner organisations	no adverse effect - potentially beneficial in providing additional skills/ knowledge/ labour for appropriate site management to maintain/ enhance qualifying habitats and species					

Draft Management Plan Actions:	Morecambe Bay Pavements SAC	Morecambe Bay SAC	Morecambe Bay SPA	Morecambe Bay Ramsar Site	Leighton Moss SPA	Leighton Moss Ramsar Site
27.5 Establish a programme to support volunteer involvement in biodiversity and heritage monitoring and recording	no adverse effect - beneficial in providing additional skills/ knowledge/ labour to inform future management proposals for maintenance/ enhancement of qualifying habitats and species					

Appendix- International site Qualifying Features

Morecambe Bay Pavements SAC

(information obtained from JNCC and the Natura 2000 Standard Data form).

Administrative area: Cumbria (90.91%), Lancashire (9.09%)

Grid reference: SD 440 869

Area: 2609.69 ha

1. Characteristics of the European Site:

General site character (Habitat classes): 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)

Soil & geology: Acidic, Alluvium, Basic, Clay, Limestone, Neutral, Nutrient-poor, Peat, Sand, Sedimentary

Geomorphology & landscape: Coastal, Crag/ledges, Escarpment, Hilly, Lowland, Slope

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. (Calcium-rich nutrient poor lakes, lochs and pools).

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*. (Juniper on heaths or calcareous grasslands).

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**. (Dry grasslands and scrublands on chalk or limestone).

8240 Limestone pavements * Priority feature¹

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 Crag, 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.
(Mixed woodland on base-rich soils associated with rocky 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.
(Yew-dominated woodland).

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

4030 European dry heaths

Dry heaths

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

Calcium-rich fen dominated by great fen sedge (saw sedge).

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

Western acidic oak woodland

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.

¹ 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.

3. Conservation Objectives:

(from NE website, accessed 10/10/13)

With regard to the natural habitats and/or species for which the site has been designated („the Qualifying Features“ listed below);

Avoid the deterioration of the qualifying natural habitats and the habitats of qualifying species, and the significant disturbance of those qualifying species, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving Favourable Conservation Status of each of the qualifying features.

Subject to natural change, to maintain or restore:

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

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

* 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.

4. Vulnerability:

The SAC is subject to a number of problems related to the decline of traditional management practices. The under-grazing of grasslands and decline of traditional cattle grazing is leading to the loss of sward diversity and scrub encroachment problems. Localised overgrazing (sheep-dominated) has impoverished the pavement flora on one of the component sites. A decline of traditional coppice management has reduced the interest of some of the woodland sites. The planting of non-native trees on some of the sites has led to localised declines in condition. However, large parts of the site are nature reserves and are sensitively managed.

SSSI condition information

Favourable	Unfavourable Recovering	No change	Declining	Reason for adverse condition
Underlaid wood (1/10/13)				
	1, 2, 4, 5 (88.38% of SSSI within SAC)		3 (11.62%) Unit not in SAC	
Marble Quarry and Hale Fell (1/10/13)				
2 (4.99%)	1, 3 (95.01%)			
Gait Barrows (1/10/13)				
1, 2, 3, 4, 5, 6, 7, 10, 12, 13, 14, 15, 16, 17, 18 (75.56%)	8, 9, 11, 19, 20, 21, 22 (24.44%)			
Thrang Wood (1/10/13)				
1 (100%)				
Hawes Water (1/10/13)				
1, 3, 5, 6, 7, 9, 10, 19 (18.20%)	2, 4, 8, 11, 13, 14, 15, 16, 17, 18 (80.98%)	12 (0.82%)		Although it would appear that positive action has been taken in the felling of non-natives in the Northern part of the unit, this has unfortunately created a significant area with very low canopy cover (<10%), there is also evidence of recent die back of all ash saplings / young trees in the Northern Part of the unit (cause unknown) and dense bramble cover across the entire area. The loss of canopy cover has allowed the bramble to become established and could possibly make it difficult for natural regeneration of to occur (although it may infact protect any regen from deer browsing). It may be necessary to encourage re-establishment of tree cover by securing natural regeneration with tree shelters. Discussion is needed with the site owner to ensure that appropriate actions are taken to aid recovery. The Southern half of the unit (NNR) was in better (unfavourable recovering) condition, but still failing some of the FCT targets, most notably on the lack of understory cover, however, ash regeneration was present and deer browsing did not appear to be a problem.
Middlebarrow (1/10/13)				
2 (4.58%)	1 (54.86%) Unit not in SAC		3 (40.56%)	Cotoneaster removal being the required action and deer control needing addressing
Thrang End and Yealand Hall Allotment (1/10/13)				
	1, 2, 3 (100%)			
Cringlebarrow and Deepdale (1/10/13)				
	1, 2, 3, 4, 5 (100%)			

5. Relevant Plans and Projects

Plans

South Lakeland Core Strategy (adopted October 2010)

Lancaster District Core Strategy (adopted 2008)

Cumbria Minerals and Waste Local Plan (in development), Core Strategy (adopted 2009)

Joint Lancashire Minerals and Waste Development Framework Core Strategy (2009) (Site allocations document in preparation)

Moving Cumbria Forward, Cumbria Transport Plan Strategy 2011-2026

Local Transport Plan 2011- 2021, A Strategy for Lancashire

Morecambe Bay SAC

(information obtained from JNCC and the Natura 2000 Standard Data form).

Designation: Special Area of Conservation (SAC)

Administrative area: Cumbria (45.99%), Lancashire (23.50%), Marine (30.52%)

Grid reference: SD 371 697

Area: 61506.22 ha

1. Characteristics of the European Site:

General site character (Habitat classes): 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

Soil & geology: Biogenic reef, Boulder, Clay, Cobble, Gravel, Limestone, Mud, Neutral, Pebble, Sand, Sandstone, Sedimentary, Shingle

Geomorphology & landscape: Coastal, Enclosed coast (including embayment), Estuary, Floodplain, Intertidal sediments (including sandflat/mudflat), Island, Lagoon, Lowland, Open coast (including bay), Pools, Shingle bar, Subtidal rock (including rocky reefs), Subtidal sediments (including sandbank/mudbank)

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.
(Pioneer salt 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*.
(Salt marsh)

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:

(from NE website, accessed 10/10/13)

With regard to the natural habitats and/or species for which the site has been designated („the Qualifying Features“ listed below);

Avoid the deterioration of the qualifying natural habitats and the habitats of qualifying species, and the significant disturbance of those qualifying species, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving Favourable Conservation Status of each of the qualifying features.

Subject to natural change, to maintain or restore:

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

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 part of the Morecambe Bay European Marine Site. These conservation objectives should be used in conjunction with the Regulation 35 Conservation Advice Package.

4. Vulnerability

There are a wide range of pressures on Morecambe Bay but the site is relatively robust and many of these pressures have only slight or local effects on its interests. The interests depend largely upon the coastal processes operating within the Bay, which have been affected historically by human activities including coastal protection and flood defence works.

Opportunities to reverse coastal squeeze are being explored. The saltmarsh is traditionally grazed and is generally in favourable condition for its bird interest. Most of the saltmarsh is traditionally grazed and is utilised by breeding, wintering and migrating birds for feeding, roosting and nesting purposes. Positive management is being secured through NGO reserve management plans, English Nature's Site Management Statements and Coastal Wildlife Enhancement Scheme, the European Marine Site Management Schemes for the Duddon Estuary and Morecambe Bay, and the Duddon Estuary and Morecambe Bay Partnerships. These aim for sustainable use of the site, taking account of other potential threats including commercial fisheries, aggregate extraction, gas exploration, recreation and other activities.

Morecambe Bay is also vulnerable to sea level rise as a result of climate change. Potential damage and loss of intertidal habitats could result as sea levels rise and the risk of coastal squeeze increases.

SSSI condition information

Favourable	Unfavourable Recovering	No change	Declining	Reason for adverse condition
Morecambe Bay (1/10/13)				
4, 5, 6 parts of 2, 7 9, 12, 26	3			

Units 3, 4, 5 and 6 are thought to be entirely within the AONB. The exact area of the other listed units which lies within the AONB is not known. However, of the MB SSSI within the AONB, all the area is in favourable condition apart from unit 3 (856.4ha) which is recovering.

5. Relevant Plans and Projects

Plans

South Lakeland Core Strategy (adopted October 2010)

Lancaster District Core Strategy (adopted 2008)

Morecambe Bay Shoreline Management Plan 2

Projects

England Coast Path Scheme

Morecambe Bay Hybrid Fishery Order

Leighton Moss SPA

(information obtained from JNCC and the Natura 2000 Standard Data form)

Designation: Special Protection Area (SPA)

Administrative area: Lancashire (100%)

Grid reference: SD 485 750

Area: 128.61 ha

1. Characteristics of the European Site:

Leighton Moss is situated on the eastern edge of Morecambe Bay in Lancashire in north-west England. 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 the large 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. The base-rich water, which flows into the marsh from the surrounding limestone hills, contributes to an overall richness in the vegetation and associated fauna.

General site character (Habitat classes):

Inland water bodies (standing water, running water) (16%), Bogs. Marshes. Water fringed vegetation. Fens (75%), Heath. Scrub. Maquis and garingue. Phygrana (9%).

Soil & geology:

Basic, Clay, Limestone, Nutrient-rich, Peat, Sedimentary

Geomorphology & landscape:

Coastal, Floodplain, Lowland

2. Qualifying features:

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

During the breeding season the area regularly supports:

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

3. Conservation objectives

With regard to the individual species and/or assemblage of species for which the site has been classified („the Qualifying Features“ listed below);

Avoid the deterioration of the habitats of the qualifying features, and the significant disturbance of the qualifying features, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving the aims of the Birds Directive.

Subject to natural change, to maintain or restore:

- 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 populations of the qualifying features;
- The distribution of the qualifying features within the site.

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)

4. Vulnerability

Leighton Moss is the largest reedbed in North West England and is vulnerable to changes in water quality and water levels. Since the establishment of a reserve at Leighton Moss in 1964 the RSPB has raised water levels and actively managed the site in order to maintain and enhance its Phragmites dominated fen and open water to provide optimum conditions for its nationally important reedbed birds. This has involved water level management, ditch maintenance work, the coppicing and control of invading willow scrub, as well as the annual rotational cutting of reedbeds. The decline of booming bitterns on the site, reflecting a national trend, has been halted through detailed research and improved management of the site. This management, which also benefits other birds on the site, has involved further refinement of reedbed management and the manipulation of the reed/open water interface and with increased water level control. The maintenance of a high quality spring fed water supply is important. Initiatives are currently being initiated to reduce/remove the threat of pollution through agricultural runoff by the Environment Agency, Natural England and RSPB.

The Moss is also susceptible to saline intrusion upstream of its tidal sluice from Morecambe Bay. With sea levels predicted to rise as a result of climate change such inundations could become more frequent.

SSSI condition information

Favourable	Unfavourable Recovering	No change	Declining	Reason for adverse condition
Leighton Moss (1/10/13)				
	1, 2			All remedies are now underway, specifically Diffuse Water Pollution Plan which was signed off by EA and NE Aug 2010

5. Relevant Plans and Projects

Plans

- South Lakeland Core Strategy (adopted October 2010)
- Lancaster District Core Strategy (adopted 2008)
- Cumbria Minerals and Waste Local Plan (in development), Core Strategy (adopted 2009)
- Joint Lancashire Minerals and Waste Development Framework Core Strategy (2009) (Site allocations document in preparation)
- Moving Cumbria Forward, Cumbria Transport Plan Strategy 2011-2026
- Local Transport Plan 2011- 2021, A Strategy for Lancashire
- Morecambe Bay Shoreline Management Plan 2

Projects

- England Coast Path Scheme
- Morecambe Bay Hybrid Fishery Order

Morecambe Bay SPA

(information obtained from JNCC website and the Natura 2000 Standard Data form).

Administrative area: Cumbria (69%), Lancashire (31%)

Grid reference: SD 371 697

Area: 37404.6 ha

1. Characteristics of the European Site:

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

Component SSSIs:

Morecambe Bay

Lune Estuary

Roudsea Wood and Mosses

South Walney and Piel Channel Flats

Wyre Estuary

General site character (Habitat classes):

Tidal rivers. Estuaries. Mud flats. Sand flats. Lagoons (including saltwork basins) (90%), Salt marshes. Salt pastures. Salt steppes (8%), Coastal sand dunes. Sand beaches. Machair (1%), Shingle. Sea cliffs. Islets (1%).

Soil & geology:

Boulder, Clay, Cobble, Gravel, Limestone/chalk, Mud, Neutral, Sand, Sandstone, Sedimentary, Shingle

Geomorphology & landscape:

Coastal, Enclosed coast (including embayment), Estuary, Floodplain, Intertidal rock, Intertidal sediments (including sandflat/mudflat), Island, Lagoon, Lowland, Open coast (including bay), Pools, Shingle bar, Subtidal rock (including rocky reefs), Subtidal sediments (including sandbank/mudbank).

2. Qualifying features:

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

During the breeding season;

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

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

Over winter;

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

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

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

During the breeding season;

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

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

On passage;

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

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

Over winter;

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

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

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

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

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

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

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

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

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

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

Assemblage qualification: A seabird assemblage of international importance

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

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

Assemblage qualification: A wetland of international importance.

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

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

3. Conservation objectives

With regard to the individual species and/or assemblage of species for which the site has been classified („the Qualifying Features“ listed below);

Avoid the deterioration of the habitats of the qualifying features, and the significant disturbance of the qualifying features, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving the aims of the Birds Directive.

Subject to natural change, to maintain or restore:

- 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 populations of the qualifying features;
- The distribution of the qualifying features within the site.

This is a European Marine Site. This site is part of the Morecambe Bay European Marine Site. These conservation objectives should be used in conjunction with the Regulation 35 Conservation Advice Package.

4. Vulnerability

The site is subject to a wide range of pressures such as land-claim for agriculture, overgrazing, dredging, overfishing, industrial uses and unspecified pollution. However, overall the site is relatively robust and many of those pressures have only slight to local effects and are being addressed thorough Management Plans. The breeding tern interest is very vulnerable and the colony has recently moved to the adjacent Duddon Estuary. Positive management is being secured through management plans for non-governmental organisation reserves, English Nature Site Management Statements, European Marine Site Management Scheme, and the Morecambe Bay Partnership.

Morecambe Bay is also vulnerable to sea level rise as a result of climate change. Potential damage and loss of intertidal habitats and the loss of feeding and roosting grounds for birds could result as sea levels rise and the risk of coastal squeeze increases.

SSSI condition information

See table under Morecambe Bay SAC

5. Relevant Plans and Projects

Plans

Morecambe Bay Shoreline Management Plan 2

Projects

England Coast Path Scheme

Morecambe Bay Hybrid Fishery Order

Leighton Moss Ramsar Site

(information obtained from JNCC and the Information Sheet on Ramsar Wetlands).

Administrative area: Lancashire (100%)

Grid reference: SD 485 750

Area: 128.61 ha

1. General description of the Physical Features:

Leighton Moss is the largest reedbed in this region. It was originally a peatbog and was pumpdrained 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.

Soil & geology: basic, clay, peat, nutrient-rich, sedimentary, limestone

Geomorphology and landscape: lowland, coastal, floodplain

Nutrient status: mesotrophic

pH: alkaline

Salinity: fresh

Soil: mainly mineral

Wetland Types: *Inland wetland*

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

2. Qualifying features:

Ramsar criterion 1²

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 3³

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*.

3. Conservation Objectives

See Leighton Moss SPA..

4. Vulnerability

Ramsar Information Sheet (RIS) lists:

- Sedimentation/siltation: Natural processes causing sedimentation. This results in increased turbidity and loss of aquatic flora and subsequently decreased quality of bittern habitat.
- Pollution – pesticides/agricultural runoff: Slurry from adjacent dairy farm and inorganic compounds from other agricultural sources.

² 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.

³ 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.

The Moss is also susceptible to saline intrusion upstream of its tidal sluice from Morecambe Bay. With sea levels predicted to rise as a result of climate change such inundations could become more frequent.

SSSI condition information

See table under Leighton Moss SPA

5. Relevant Plans and Projects

See under Leighton Moss SPA.

Morecambe Bay Ramsar Site

(information obtained from JNCC and the Information Sheet on Ramsar Wetlands).

Administrative area: Cumbria (69%), Lancashire (31%)

Grid reference: SD 371 697

Area: 37404.6 ha

1. 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.

Soil & geology: Boulder, Clay, Cobble, Gravel, Limestone/chalk, Mud, Neutral, Sand, Sandstone, Sedimentary, Shingle

Geomorphology & landscape: Coastal, Enclosed coast (including embayment), Estuary, floodplain, Intertidal rock, Intertidal sediments (including sandflat/mudflat), Island, Lagoon, Lowland, Open coast (including bay), Pools, Shingle bar, Subtidal rock (including rocky reefs), Subtidal sediments (including sandbank/mudbank).

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%.

2. Qualifying features:

Ramsar criterion 4⁴

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

Ramsar criterion 5⁵

Species with peak counts in winter:

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

Ramsar criterion 6⁶ - species/populations occurring at levels of international importance

Qualifying Species/populations (as identified at designation):

Species regularly supported during the breeding season:

⁴ 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)

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

⁶ 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.

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*,
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*,

3. Conservation Objectives

See Morecambe Bay SPA.

4. Vulnerability

None listed in RIS.

SSSI condition information

See table under Morecambe Bay SAC

5. Relevant Plans and Projects

See under Morecambe Bay SPA.