

Site Improvement Plan

Duddon Mosses

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

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

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

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

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

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

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

UK0019833 Duddon Mosses SAC

Site description

Duddon Mosses SAC is located in south Cumbria, on the northern coastal plain of the Duddon Estuary and the river flood plain of Kirkby Pool.

The site comprises the central parts of a series of raised bogs, formerly lying within a wetland complex which would have surrounded the bogs with fen, swamp and transitions to estuarine and river habitats, but now acting as an island of wetland habitat within a predominantly intensively managed agricultural landscape.

Plan Summary

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

Priority & Issue	Pressure or Threat	Feature(s) affected	Measure	Delivery Bodies
1 Hydrological changes	Pressure	H7110 Active raised bogs, H7120 Degraded raised bog	Manage for optimum hydrology (usually the water table at the surface)	Cumbria County Council, Environment Agency, Lake District National Park Authority, Natural England
2 Inappropriate scrub control	Pressure	H7110 Active raised bogs, H7120 Degraded raised bog	Remove trees where they have hydrological effects, or where access is needed	Forestry Commission, Natural England
3 Invasive species	Pressure	H7110 Active raised bogs, H7120 Degraded raised bog	Eliminate rhododendron from the site	Natural England
4 Climate change	Threat	H7110 Active raised bogs, H7120 Degraded raised bog	Raising awareness, and liaison with landowners	Natural England
5 Air Pollution: impact of atmospheric nitrogen deposition	Pressure	H7110 Active raised bogs, H7120 Degraded raised bog	Control, reduce and ameliorate atmospheric nitrogen impacts	Not yet determined

Issues and Actions

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

1 Hydrological changes

Historic peat cutting (including slumping and cracking of peat behind faces) and drainage are leading to ongoing changes to the peat and vegetation. There is a time-lag between degradation of the peat and vegetation response. In addition to this, the water table is too low in unmanaged areas to support desired bog vegetation and conserve the peat resource. This issue has been partly addressed via hydrological restoration works over the last 15 years.

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
1A	Investigate the appropriateness of current SSSI boundaries to ensure they match the need of securing good ecological site condition.	Not yet determined	2014 onwards	Designation strategy: Notification Amendment	Not yet determined	Natural England	n/a
1B	Secure favourable management on all land of importance to the bog.	£100,000	2014 onwards	Habitat creation / restoration strategy: Creation of new habitat	Not yet determined	Natural England	n/a
1C	Develop a mechanism for management of land with unknown ownership.	Not yet determined	2014	Mechanism not identified / develop mechanism	Not yet determined	Natural England	n/a

<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
1D	Raise the water table to the surface on the bog and create marginal fen where this would help to support the bog hydrology, using agri-environment schemes.	£2,000,000	2014-25	Rural Development Programme for England (RDPE): Common Agricultural Policy 2014-20 (New Environmental Land Management Scheme)	Not yet determined	Natural England	n/a
<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
1E	Raise the water table to the surface on the bog and create marginal fen where this would help to support the bog hydrology, using the National Nature Reserve Management Plan.	Included in RDPE figure	2014-25	National Nature Reserve (NNR) management plan	Not yet determined	Natural England	n/a
<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
1F	Secure long term conservation management of the land to achieve the hydrological functionality of the features into the future. Identification and implementation of a mechanism to this end is necessary.	Not yet determined	2014-25	Mechanism not identified / develop mechanism	Not yet determined	Natural England	n/a
<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
1G	Delivery partners to work together with landowner to seek planning permission where necessary, to enable the water table to be raised to the surface and to create marginal fen where this would help to support the bog hydrology.	£11,380	2014-25	Regulation: Grant Appropriate Planning Permission	Natural England (NNR running costs), Rural Development Programme (RDPE)	Natural England	Lake District National Park Authority

<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
1H	Delivery partners to work together with landowner to seek Land Drainage Consent where necessary, to enable the water table to be raised to the surface and to create marginal fen where this would help to support the bog hydrology.	Not yet determined	2014-25	Regulation: Land Drainage Consent	Not yet determined	Natural England	Cumbria County Council, Environment Agency
<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
1I	Increase the uptake of relevant options in agri-environment schemes over land that supports bog hydrology.	Not yet determined	2014-16	Rural Development Programme for England (RDPE): Common Agricultural Policy 2014-20 (New Environmental Land Management Scheme)	Not yet determined	Natural England	n/a

2 Inappropriate scrub control

Lowering of the water table allows trees to colonise the bog, leading to further negative impacts on hydrology and vegetation. This positive feedback effect in favour of tree cover leads to increasing negative effects on vegetation and peat.

<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
2A	Include prescriptions in NELMS agreements to remove trees and scrub where they are affecting hydrology or would impede access for machinery used in restoration works.	£200,000	2014-25	Rural Development Programme for England (RDPE): Common Agricultural Policy 2014-20 (New Environmental Land Management Scheme)	Not yet determined	Natural England	n/a

<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
2B	Seek felling license to remove trees and scrub where they are affecting hydrology or would impede access for machinery used in restoration works.	Not yet determined	2014-25	Regulation: Felling Licence	Not yet determined	Forestry Commission	n/a
<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
2C	Ensure that any Environmental Impact Assessment (EIA) determination under the Forestry Regulations takes full account of the requirements of the Habitats Directive to take appropriate conservation measures to restore the Natura 2000 features to a favourable conservation status.	Not yet determined	2014-25	Regulation: Other - obtain appropriate permissions	Not yet determined	Forestry Commission	n/a

3 Invasive species

Rhododendron is not sufficiently controlled on the site, and its encroachment is having a severe impact on bog vegetation and peat condition.

<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
3A	Eliminate rhododendron <i>Rhododendron ponticum</i> from the site.	£10,000	2015-25	Invasive Control Plan: Invasive Species Control Programme	Agri-environment scheme, NNR management funding	Natural England	n/a

4 Climate change

More frequent heavy rainfall in recent years is leading to flooding on adjacent and nearby land.

<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
4A	Ensure that stakeholders and local people are informed about the context for, and actions that need to be undertaken to restore this site and have the opportunity to comment.	£500	2014 onwards	Advice: Education & awareness raising	Not yet determined	Natural England	n/a

5 Air Pollution: impact of atmospheric nitrogen deposition

Nitrogen deposition exceeds site critical loads but any impacts are currently masked by unfavourable hydrology.

<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
5A	Control, reduce and ameliorate atmospheric nitrogen impacts	Not yet determined	2014-20	Site Nitrogen Action Plan	Not yet determined	Not yet determined	n/a

Site details

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

Qualifying features

#UK Special responsibility

Duddon Mosses SAC	H7120 Degraded raised bogs still capable of natural regeneration
	H7110# Active raised bogs

Site location and links

Duddon Mosses SAC

Area (ha)	313.07	Grid reference	SD223853	Map link
Local Authorities			Cumbria	
Site Conservation Objectives				European Site Conservation Objectives for Duddon Mosses SAC
European Marine Site conservation advice				n/a
Regulation 33/35 Package				n/a
Marine Management Organisation site plan				n/a

Water Framework Directive (WFD)

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

Duddon Mosses SAC

<i>River basin</i>	North West	North West RBMP
<i>WFD Management catchment</i>	South West Lakes	
<i>WFD Waterbody ID (Cycle 2 draft)</i>	n/a	

Overlapping or adjacent protected sites

Site(s) of Special Scientific Interest (SSSI)	
Duddon Mosses SAC	Duddon Mosses SSSI

National Nature Reserve (NNR)	
Duddon Mosses SAC	Duddon Mosses NNR

Ramsar	
Duddon Mosses SAC	n/a

Special Areas of Conservation (SAC) and Special Protection Areas (SPA)	
Duddon Mosses SAC	n/a

<i>Version</i>	<i>Date</i>	<i>Comment</i>
1.0	08/10/2014	

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