Improvement Programme for England's Natura 2000 Sites (IPENS)

Planning for the Future

Site Improvement Plan

South Solway 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)

UK0030310 South Solway Mosses SAC

Site description

This is a complex of estuarine raised bogs to the south of the Solway, totalling 1962 ha, and is comprised of Wedholme Flow, Bowness Common, Glasson Moss and Drumburgh Moss.

Although modified by past drainage, agriculture and peat cutting, much of these sites support typical bog vegetation, including bog rosemary *Andromeda polifolia,* cranberry *Vaccinium oxycoccos* and great sundew *Drosera anglica*. 77% of the area is designated as 7110 Active Raised Bog, and Wedholme Flow contains the largest area of almost intact active raised bog remaining in England.

The remaining 23% is 7120 Degraded Raised Bog capable of recovery within the next 30 years, and restoration work is focussing on repairing the hydrology so that peat-forming vegetation is re-established.

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	Threat	H7110 Active raised bogs, H7120 Degraded raised bog	Commit to community engagement and involvement throughout	Solway Wetlands Landscape Partnership
2 Hydrological changes	Pressure	H7110 Active raised bogs, H7120 Degraded raised bog	Reconsider the SSSI boundaries to secure site integrity	Solway Wetlands Landscape Partnership
3 Inappropriate water levels	Pressure	H7110 Active raised bogs, H7120 Degraded raised bog	Agree and Implement restoration of the optimum hydrology	Defra, Solway Wetlands Landscape Partnership, Local farmers
4 Invasive species	Threat	H7110 Active raised bogs, H7120 Degraded raised bog	Monitor and control all native and non-native invasive species	Natural England, Local farmers
5 Air Pollution: impact of atmospheric nitrogen deposition	Pressure	H7110 Active raised bogs, H7120 Degraded raised bog	Develop and implement a Site Nitrogen Action Plan	Solway Wetlands Landscape Partnership, Local farmers

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

The attitudes of the general public towards hydrological restoration work can vary widely due to differences in perspective, misunderstanding or miscommunication. Open engagement with landowners, stakeholders, all partners and people in the local catchment must become integral to the early stages of any proposals, and throughout projects. Voluntary agri-environment agreements, goodwill partnerships, and local support are dependent upon community buy-in, without which mechanisms become far more expensive, complex and potentially confrontational.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
1A	Increase all community engagement, and expand partnerships to improve awareness and understanding of the SAC objectives within the catchment. This must include farmers and farm network organisations, the evolving local Internal Drainage Board (IDB), professional and amateur wildlife and species groups, schools, clubs and different access user groups, as well as existing partners. The success of the SAC currently depends largely on a commitment to working with key farmers and the long term viability of their farm businesses.	£150,000	2014-20	Mechanism not identified / develop mechanism	EU Life	Solway Wetlands Landscape Partnership	Cumbria Wildlife Trust, Environment Agency, Natural England, RSPB, Solway Coast AONB

2 Hydrological changes

The current SAC and SSSI boundaries do not include all the land necessary to secure good ecological condition of the mire habitats in all locations. Areas of degraded mire have limited physical room for restoration, and many lagg communities have been lost.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
2A	Investigate the appropriateness of current designation boundaries to ensure they match the need of securing good ecological site condition.	£100,000	2014-16	Designation strategy (SSSI)	Defra, Environment Agency, EU Life	Natural England	Solway Wetlands Partnership (Cumbria Wildlife Trust; Environment Agency; Natural England; RSPB; Solway Coast AONB)

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
2B	Continue monitoring and research on the South Solway Mosses to inform the future use of techiques in peatland restoration, including re-vegetation techniques and water level monitoring.	£100,000	2014-20	Investigation / Research / Monitoring	Defra, Environment Agency, EU Life	Natural England	Solway Wetlands Partnership (Cumbria Wildlife Trust; Environment Agency; Natural England; RSPB; Solway Coast AONB)

3 Inappropriate water levels

Past drainage and industrial scale peat cutting have damaged the natural hydrology of the SAC. Most lagg has been lost to agriculture, and in many places there is no buffer against agricultural use or room for the natural bog hydrology. Restoration work aims to raise water levels and re-wet the peat to recreate peat-forming conditions. Oxidised cut faces, scrub, bracken and *Molinia* encroachment still persist where approriate water levels have not yet been restored.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
3A	Amend existing HLS agreements to incorporate outstanding restoration plans.	£100,000	2014-16	Rural Development Programme for England (RDPE): Environmental Stewardship Higher Level Scheme (HLS)	Higher Level Stewardship (HLS) additional capital payment	Natural England	Local farmers, Solway Wetlands Partnership (Cumbria Wildlife Trust; Environment Agency; Natural England; RSPB; Solway Coast AONB)

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
3B	Negotiate and set up new NELMS agreements on land not covered by an existing scheme, and on land in expiring HLS.	£100,000	2015-20	Rural Development Programme for England (RDPE): Common Agricultural Policy 2014-20 (New Environmental Land Management Scheme)	New Environmental Land Management Scheme (NELMS)	Natural England	Local farmers, Solway Wetlands Partnership (Cumbria Wildlife Trust; Environment Agency; Natural England; RSPB; Solway Coast AONB)

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
3C	Implement actions from the current National Nature Reserve Management Plans, and continue to identify, plan and resource necessary future measures.	£500,000	2015-25	National Nature Reserve (NNR) management plan	Defra, EU Life, Natural England	Natural England	n/a

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
3D	Implement relevant outstanding actions from the existing Water Level Management Plans, where land owner agreements allow. All other outstanding WLMP actions should remain as future aspirations, with further impact modelling if required.	£400,000	2014-20	Water Level Management Plan	Environment Agency, Flood and Coastal Erosion Risk Management (FCERM) 2015-21	Environment Agency	Natural England

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
3E	Secure long term conservation management of the land to achieve hydrological functionality. Identify additional funding sources and mechanisms, and implement these.	£10,000,000	2015-25	Mechanism not identified / develop mechanism	Defra, Environment Agency, EU Life, Natural England, External funding	Defra	Local farmers, Solway Wetlands Partnership (Cumbria Wildlife Trust; Environment Agency; Natural England; RSPB; Solway Coast AONB)

4 Invasive species

Native bog vegetation and hydrology can be threatened where invasive species densities are high.The regeneration of native scrub/woodland on recovering mires requires control where there are hydrological and ecological implications. Threats from non-native invasive species include the Pitcher plant *Sarracenia purpurea*, which has become established on one moss. The presence of Rhodedendron, Japanese knotweed and Himalayan balsam within or closely outwith the SAC must be monitored and any threats controlled.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
4A	Monitoring and follow-up control of *Sarracenia purpurea*, following a large scale control project (carried out in 2013) to ensure eradication. Continued control of scrub regeneration where necessary, and on-going removal of all non-native invasives as part of eradication in the wider catchment.	£12,000	2014-20	Invasive Control Plan: Invasive Species Control Programme	Higher Level Stewardship (HLS), New Environmental Land Management Scheme (NELMS)	Natural England	Local farmers

5 Air Pollution: impact of atmospheric nitrogen deposition

Nitrogen deposition exceeds site relevant critical loads, but any impacts are masked by the negative effects of inappropriate water levels and land management.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
5A	Reduce and ameliorate atmospheric nitrogen impacts	Not yet determined	2014-20	Site Nitrogen Action Plan	Not yet determined	Natural England	Environment Agency, Local farmers, Solway Wetlands Partnership (Cumbria Wildlife Trust; Environment Agency; Natural England; RSPB; Solway Coast AONB)

Site details

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

Qualifying features

#UK Special responsibility

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

Site location and links

South Solway Mosses SAC

Area (ha) **1962.36** *Grid reference* **NY203597**	Map link
Local Authorities	Cumbria
Site Conservation Objectives	European Site Conservation Objectives for South Solway 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 (RMBP) 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.

South Solway Mosses SAC

River basin	Solway Tweed	Solway Tweed RBMP
WFD Management catchment	Eden and Esk	
WFD Waterbody ID (Cycle 2 draft)	n/a	

Overlapping or adjacent protected sites

Site(s) of Special Scientific Interest (SSSI)	
South Solway Mosses SAC	Drumburgh Moss SSSI
	Bowness Common SSSI
	Glasson Moss SSSI
	Wedholme Flow SSSI

National Nature Reserve (NNR)	
South Solway Mosses SAC	Drumburgh Moss NNR
	South Solway Mosses NNR

Ramsar	
South Solway Mosses SAC	n/a

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

Version	*Date*	*Comment*
1.0	06/10/2014	