

Site Improvement Plan

Bolton Fell Moss

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)

UK0030362 Bolton Fell Moss SAC

Site description

Bolton Fell Moss is the largest raised bog, and the only one of its hydrological type, in East Cumbria. It is situated on a relatively flat area of higher ground between tributaries of the River Irthing and Lyne. The peat deposits on the site range up to nearly 11 metres in depth on the western side and overlie Carboniferous sandstones and mudstones.

Peat has been commercially extracted from the site since 1959 and these peat workings now extend over much of the area. Approximately 28 ha of vegetation typical of intact raised bog remains in the north-western corner with less than an additional 10 ha in scattered strips between the edge of the bog and the peat extraction area. The bare intervening and surrounding peat within the site is judged necessary on hydrological grounds to the maintenance of the existing features of interest which comprise areas of vegetation typical of active bog communities, wet heath and also peripheral vegetation that provides features analogous to lagg communities.

Plan Summary

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

Priority & Issue	Pressure or Threat	Feature(s) affected	Measure	Delivery Bodies
1 Hydrological changes	Pressure	H7120 Degraded raised bog	Safeguard the long-term future management through declaration as an NNR and implement restoration and management plans	Natural England
2 Inappropriate water levels	Pressure	H7120 Degraded raised bog	Continue operating existing hydrological monitoring equipment	Natural England
3 Drainage	Pressure/ Threat	H7120 Degraded raised bog	Implement the restoration plan	Natural England
4 Unsustainable on-site population or habitat	Pressure	H7120 Degraded raised bog	Develop innovative techniques to generate sufficient Sphagnum resource for revegetation	Natural England, University(ies), Contractor: land management, Commercial partner(s)
5 Inappropriate scrub control	Pressure	H7120 Degraded raised bog	Implement the restoration plan	Natural England

6	Wildfire/ arson	Pressure/ Threat	H7120 Degraded raised bog	Explore options for dry weather fire prevention and warning system	Natural England
7	Water Pollution	Threat	H7120 Degraded raised bog	Secure control of agricultural nutrient inputs via SSSI re-designation	Natural England
8	Biological Resource Use	Pressure/ Threat	H7120 Degraded raised bog	Exclude damaging rights via SSSI re-designation / raise awareness of procedures for research use	Natural England
9	Air Pollution: impact of atmospheric nitrogen deposition	Pressure	H7120 Degraded raised bog	Control, reduce and ameliorate atmospheric nitrogen impacts	Not yet determined
10	Change in land management	Threat	H7120 Degraded raised bog	Use regulatory powers to ensure continued favourable management	Natural England
11	Public Access/Disturbance	Threat	H7120 Degraded raised bog	Facilitate and manage appropriate public access, liaising with community and user groups	Natural England

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

Hydrological integrity of the site has been severely compromised in the past and although restoration will lessen this significantly, ongoing management of the main drains and surrounding land and lagg is essential to secure the success of restoration. This ongoing management post-restoration is not part of the current restoration plan and budget. This is also key to being able to create the correct community of vegetation that will facilitate the formation of active bog forming vegetation (M18 *Erica tetralix* - *Sphagnum papillosum* raised mire).

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
1A	Implement the restoration plan in the short term and embed its methodologies in any subsequent NNR management plan.	£1,000,000	2014-50	Habitat creation / restoration strategy: Habitat restoration	NNR management funding, External project bid	Natural England	n/a
1B	Consider extending the current Walton Moss NNR to include Bolton Fell Moss to secure ongoing hydrological management post-restoration.	Staff time	2014-15	Designation strategy: Other	Not yet determined	Natural England	n/a
1C	Develop a National Nature Reserve management plan with associated staff and financial resource to manage the drainage post-restoration, if site is designated as NNR.	Staff time	2017-50	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>
1D	Redesignate the SSSI to include the hydrological unit and pursue designation as an NNR (see Action 1B) to ensure continuity of management to bring the site into favourable condition and ensure it fully contributes to favourable conservation status	Staff time	2014-2015	Designation strategy (SSSI)	Not yet determined	Natural England	n/a

2 Inappropriate water levels

Water levels need to be restored and maintained at or just below the surface, in order to create mire habitat. Ongoing monitoring of water levels is required across the site during and post-restoration to ensure the continued success of restoration and the newly colonising mire vegetation.

<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	Secure funding and let a specialist contract to continue to operate and interpret the hydrological monitoring equipment already installed on site.	£100,000 over 10 years	2014-25	Investigation / Research / Monitoring	Natural England (Science budget)	Natural England	n/a

3 Drainage

Main drains need to be maintained during restoration phase, to prevent catastrophic flooding or drying.

<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	Implement the restoration plan in the short term and embed its methodologies in any subsequent NNR management plan.	see costs for action 1A	2014-50	Habitat creation / restoration strategy: Habitat restoration	NNR management funding, External project bid	Natural England	n/a

4 Unsustainable on-site population or habitat

The current source of Sphagnum on site is extremely limited therefore restoration is reliant on securing a source of Sphagnum from neighbouring SACs without compromising them, or through exploring other techniques such as micro-propagation.

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
4A	Develop techniques for vegetating the mire habitat by identifying donor sites, developing non-destructive propagule harvesting techniques and continuing to contribute to techniques such as micro-propagation of Sphagnum.	£50,000	2014-17	Investigation / Research / Monitoring	Not yet determined	Natural England	University(ies), Commercial partner(s)

5 Inappropriate scrub control

Scrub invasion around and in the middle of the site, which is a product of highly fluctuating hydrology, will be an ongoing management issue until optimal hydrological conditions are achieved.

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
5A	Implement the restoration plan in the short term and embed the methodologies described within the plan within the NNR management plan.	see costs for action 1A	2014-50	Habitat creation / restoration strategy: Habitat restoration	NNR management funding, External project bid	Natural England	n/a

6 Wildfire/ arson

During restoration phase there is a threat of fire on bare milled surfaces during dry weather, if dry surface not removed.

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
6A	Explore options for contracting out a fire prevention and warning system during prolonged dry weather periods.	£5,000	2014-20	Mechanism not identified / develop mechanism	Natural England, SSSI funding	Natural England	n/a

7 Water Pollution

There are fields in agricultural management adjacent to the SAC that may be able to drain into the periphery of the mire and therefore may elevate nutrient levels within the mire and drainage network

<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>
7A	Ensure SSSI re-designation encompasses all the land required for restoration of the SAC, in order to secure control of agricultural inputs.	Staff time	2014-15	Designation strategy (SSSI)	Staff time	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>
7B	Take action, using regulatory powers against any unconsented activity where there is evidence of damage.	Staff time	2014-15	Enforcement	Staff time	Natural England	n/a

8 Biological Resource Use

1. Small risk that people with turbary rights may exercise those rights before their land becomes SSSI or SAC. 2. Uncontrolled use by universities or researchers, taking cores etc without permission.

<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>
8A	Ensure that the re-notified SSSI provides for effective regulation of damaging activities by including all relevant land, clearly expressing both the full range of the interest features, how they should be managed, and specifying appropriate operations requiring consent.	Staff time	2014-15	Designation strategy (SSSI)	Staff time	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>
8B	Raise awareness within educational establishments and owner-occupiers of the protocol for gaining permission to undertake research on the site.	£5,000	2014-18	Advice: Education & awareness raising	Natural England (NNR running costs), SSSI funding, Cumbria bogs LIFE project	Natural England	n/a

9 Air Pollution: impact of atmospheric nitrogen deposition

Nitrogen deposition exceeds site relevant critical loads.

<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>
9A	Control, reduce and ameliorate atmospheric nitrogen impacts.	Not yet determined	2014-20	Site Nitrogen Action Plan	Not yet determined	Not yet determined	Not yet determined

10 Change in land management

Whilst due process is in place to secure ownership, if this fails on any parts of the site there is a high risk of restoration being compromised by a change in land management.

<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
10A	Use regulatory powers to ensure favourable management continues on site.	Staff time	2014-50	Regulation: SSSI Regulation	Staff time	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>
10B	Use an appropriate incentive scheme to ensure favourable management of the land.	Not yet determined	2014-20	Rural Development Programme for England (RDPE): Common Agricultural Policy 2014-20 (New Environmental Land Management Scheme)	New Environmental Land Management Scheme (NELMS)	Natural England	n/a

11 Public Access/Disturbance

The site is very remote and isolated. There is a possible risk of restoration works being vandalised, accidental fires or arson. Site is easily accessible on all sides, so there is a risk that trespassers could be in danger in soft peat or deep ditches.

<i>Action</i>	<i>Action description</i>	<i>Cost estimate</i>	<i>Timescale</i>	<i>Mechanism</i>	<i>Funding option</i>	<i>Delivery lead body</i>	<i>Delivery partner(s)</i>
11A	Consider designation of the site as a NNR to ensure public access management infrastructure is in place.	Staff time	2014-50	Designation strategy: Other	Staff time	Natural England	n/a
11B	If designated, manage the site as a NNR to ensure there is public access management infrastructure is in place and is readily accessible, including regular communications with local community and other user groups.	Staff time	2014-50	National Nature Reserve (NNR) management plan	Staff time	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>
11C	If designated, manage the site as a NNR and liaise with user groups to ensure and facilitate appropriate access to and on the site together with interpretation.	£100,000	2014-50	Advice: Access Strategy	Natural England (NNR running costs), Staff time, Cumbria bogs LIFE project	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>
11D	Use regulatory powers to take action against any unconsented activity, and/or consider the use of byelaws to support existing SSSI protection.	Staff time	2014-20	Enforcement	Staff time	Natural England	n/a

Site details

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

Qualifying features

#UK Special responsibility

Bolton Fell Moss SAC

H7120 Degraded raised bogs still capable of natural regeneration

Site location and links

Bolton Fell Moss SAC

Area (ha) **374.74** Grid reference **NY490688** [Map link](#)

Local Authorities Cumbria County Council

Site Conservation Objectives [European Site Conservation Objectives for Bolton Fell Moss SCI](#)

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.

Bolton Fell Moss SAC

River basin

[Solway Tweed RBMP](#)

WFD Management catchment

Eden and Esk

WFD Waterbody ID (Cycle 2 draft)

GB102077074150

Overlapping or adjacent protected sites

Site(s) of Special Scientific Interest (SSSI)		
Bolton Fell Moss SAC	Bolton Fell Moss SSSI	

National Nature Reserve (NNR)		
Bolton Fell Moss SAC	n/a	

Ramsar		
Bolton Fell Moss SAC	n/a	

Special Areas of Conservation (SAC) and Special Protection Areas (SPA)		
Bolton Fell Moss SAC	n/a	

Other relevant documents and links		
Bolton Fell Moss SAC	Restoration scheme for Bolton Fell Moss	Restoration scheme documents, prepared by Natural England which form part of the documentation accompanying a planning application for restoration work

<i>Version</i>	<i>Date</i>	<i>Comment</i>
1.0	23/10/14	

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