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

Planning for the Future

Site Improvement Plan

Fen Bog

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)

UK0030332 Fen Bog SAC

Site description

This valley mire lies in Newtondale, a deep glacial spillway in the North Yorkshire Moors. The peat deposit is up to 18 metres deep, and is now mostly covered with acidophilous mire vegetation.

The following plants are abundant: the bog-mosses *Sphagnum papillosum* and *S. capillifolium,* common cottongrass *Eriophorum angustifolium*, deergrass *Trichophorum cespitosum*, purple moor-grass *Molinia caerulea*, cross-leaved heath *Erica tetralix*, bog-myrtle *Myrica gale*, round-leaved sundew *Drosera rotundifolia,* tormentil *Potentilla erecta* and heath milkwort *Polygala serpyllifolia*. White beak-sedge *Rhynchospora alba* is locally abundant.

One of the important features of this site is the development of lateral water tracks containing a plant association more usually characteristic of mires in oceanic regions. A number of species occurring in these communities at Fen Bog do not occur elsewhere in north-east England and are very locally distributed outside western districts. These soligenous mire associations, some of which show the influence of base-rich water, include the bog-mosses *Sphagnum auriculatum* and *S. recurvum*, the sedges *Carex rostrata*, *C. limosa, C. echinata and C. dioica,* bog pondweed *Potamogeton polygonifolius*, many-stalked spike-rush *Eleocharis multicaulis* and bogbean *Menyanthes trifoliata.*

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 Inappropriate scrub control	Threat	H7140 Very wet mires often identified by an unstable `quaking` surface	Set in place a programme of scrub/tree removal	Natural England, North Yorkshire Moors Railway
2 Invasive species	Threat	H7140 Very wet mires often identified by an unstable `quaking` surface	Map the current extent of bog myrtle Myrica gale, and common reed Phragmites australis to enable any future change to be detected, and determine the need for future control	Natural England, North York Moors National Park Authority, Yorkshire Wildlife Trust, North Yorkshire Moors Railway
3 Undergrazing	Threat	H7140 Very wet mires often identified by an unstable `quaking` surface	Establish a cutting programme, investigate the feasibility of fencing, and investigate options for the control of purple moor grass	Natural England, Yorkshire Wildlife Trust, North Yorkshire Moors Railway

4 Public Access/Disturbance	Threat	H7140 Very wet mires often identified by an unstable `quaking` surface	Redefine the path with coarse gravel to reduce disturbance to the flush	Yorkshire Wildlife Trust
5 Air Pollution: risk of atmospheric nitrogen deposition	Threat	H7140 Very wet mires often identified by an unstable `quaking` surface	Control and reduce impacts of atmospheric nitrogen deposition	Environment Agency, Natural England
6 Inappropriate ditch management	Threat	H7140 Very wet mires often identified by an unstable `quaking` surface	Obtain a hydrological survey	Natural England, North York Moors National Park Authority, Yorkshire Wildlife Trust, North Yorkshire Moors Railway
7 Wildfire/ arson	Threat	H7140 Very wet mires often identified by an unstable `quaking` surface	Monitor steam engine use during periods of extreme fire risk	Natural England, North Yorkshire Moors Railway

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 Inappropriate scrub control

Scrub and young trees colonising the site could lead to drying out and loss of mire habitat if succession to woodland is allowed to continue unchecked.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
1A	Production of a management plan to identify areas of scrub and trees for removal, and produce a work programme.	£1,000	2015-20	Conservation Enhancement Scheme (CES)	Rural Development Programme (RDPE)	Natural England	North Yorkshire Moors Railway

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
1B	Implementation of a scrub/tree removal programme following completion of a management plan.	£3,000	2015-20	Conservation Enhancement Scheme (CES)	Rural Development Programme (RDPE)	Natural England	North Yorkshire Moors Railway

2 Invasive species

Common reed *Phragmites australis* is dense in the wettest areas of the site, and could reduce diversity of the site if it invades further into the mire. Bog myrtle *Myrica gale* could also be increasing.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
2A	Map existing extent of common reed, *Phragmites australis* and bog myrtle *Myrica gale* to enable any future change to be detected and determine need for future control.	£2,500	2015-20	Mechanism not identified / develop mechanism	Not yet determined	Natural England	North York Moors National Park Authority, Yorkshire Wildlife Trust, North Yorkshire Moors Railway

3 Undergrazing

The main area is dependent upon stock from extensively grazed adjacent moorlands and as the site is common land it cannot easily be fenced to control stock just on the area of SAC. Land adjacent to the railway is fenced off and cannot be grazed leading to high thatch levels which could be inhibiting liverworts and grasses (particularly *Molinia caerulea*). Flush vegetation could be limited by rush growth.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
3A	Investigate the feasibility of fencing the eastern side of the site, and pursue if funding and common land consent are obtainable.	£4,250	2015-20	Rural Development Programme for England (RDPE): Environmental Stewardship Higher Level Scheme (HLS)	Rural Development Programme (RDPE)	Yorkshire Wildlife Trust	Natural England, North York Moors National Park Authority

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
3B	Set in place a cutting programme in areas where grazing is restricted.	£6,500	2015-20	Conservation Enhancement Scheme (CES)	Rural Development Programme (RDPE)	Natural England	North Yorkshire Moors Railway

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
3C	To control purple moor grass *Molinea caerulea,* investigate feasibility, and if appropriate undertake trial burning on a small scale when the ground is frozen.	£750	2015-16	Rural Development Programme for England (RDPE): Environmental Stewardship Higher Level Scheme (HLS)	Rural Development Programme (RDPE)	Natural England	Yorkshire Wildlife Trust

4 Public Access/Disturbance

Public (permissive open) access along the north east boundary of the site creates areas of bare ground and erosion along a path that has developed, possibly compunded by sheep using the same path.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
4A	Redefine the existing path to reduce disturbance to basic flush.	£500	2015-16	Mechanism not identified / develop mechanism	Not yet determined	Yorkshire Wildlife Trust	n/a

5 Air Pollution: risk of atmospheric nitrogen deposition

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

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
5A	Control, reduce and ameliorate atmospheric nitrogen impacts.	Not yet determined	2020	Site Nitrogen Action Plan	Not yet determined	Environment Agency	Natural England

6 Inappropriate ditch management

Future maintenance of ditches may be required to maintain the railway line and could lead to drying out of the site.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
6A	Investigate the likely impact of instigating ditch management, and increase the understanding of water levels on the site though a hydrological survey.	£5,000	2015-16	Investigation / Research / Monitoring	Not yet determined	Natural England	North York Moors National Park Authority, Yorkshire Wildlife Trust, North Yorkshire Moors Railway

7 Wildfire/ arson

Steam trains running on the railway pose a potential fire risk, and any fire could have a negative impact upon the vegetation.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
7A	Assess the effect of accidental fires from steam engines on the North Yorkshire Moors Railway on vegetation, and investigate the use and effect of engines on the railway during periods of extreme fire risk.	Not yet determined	2014-20	Investigation / Research / Monitoring	Not yet determined	Natural England	North Yorkshire Moors Railway

Site details

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

Qualifying features

#UK Special responsibility

Fen Bog SAC	H7140 Transition mires and quaking bogs

Site location and links

Fen Bog SAC

Area (ha) **27.49** *Grid reference* **SE851974**	Map link
Local Authorities	North Yorkshire
Site Conservation Objectives	European Site Conservation Objectives for Fen Bog 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.

Fen Bog SAC

River basin	Humber RBMP
WFD Management catchment	Derwent (Humber)
WFD Waterbody ID (Cycle 2 draft)	GB104027068570

Overlapping or adjacent protected sites

Site(s) of Special Scientific Interest (SSSI)	
Fen Bog SAC	North York Moors SSSI
	Newtondale SSSI

National Nature Reserve (NNR)	
Fen Bog SAC	n/a

Ramsar	
Fen Bog SAC	n/a

Special Areas of Conservation (SAC) and Special Protection Areas (SPA)	
Fen Bog SAC	North York Moors SPA

Version	*Date*	*Comment*
1.0	24/10/14	