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

Planning for the Future

Site Improvement Plan

Roudsea Wood and 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)

UK0019834 Roudsea Wood & Mosses SAC

Site description

Roudsea Wood and Mosses is located in south Cumbria, on the northern shore of Morecambe Bay. It supports a range of habitats, of which the main ones are woodland and lowland raised bog, and transitions between them as well as a number of rare and scare species.

The bog lies in two hydrologically separate blocks and has been damaged by historic peat cutting and drainage of the surrounding land. Work to repair the hydrology is ongoing. The woodland is partly on limestone and partly on acidic substrates. Yew occurs both as dense groves and as scattered trees in the understorey of Ash or Ash-Elm *Fraxinus-Ulmus* woodland, which represents the *Tilio-Acerion* feature.

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	Undertake hydrological restoration works to bring water levels to the surface and maintain them there	Cumbria County Council, Environment Agency, Lake District National Park Authority, Natural England
2 Invasive species	Pressure	H7110 Active raised bogs, H7120 Degraded raised bog	Remove invasive plant species to facilitate restoration of bog vegetation and hydrology	Natural England
3 Inappropriate scrub control	Pressure	H7110 Active raised bogs, H7120 Degraded raised bog	Undertake scrub and tree removal to facilitate hydrological restoration	Forestry Commission, Natural England
4 Deer	Pressure/ Threat	H9180 Mixed woodland on base-rich soils associated with rocky slopes, H91J0 Yew-dominated woodland	Control deer numbers in conjunction with landowners and any regional or national level initiatives	Natural England
5 Forestry and woodland management	Pressure	H7110 Active raised bogs, H7120 Degraded raised bog	Remove planted conifers and Christmas trees	Forestry Commission, Natural England
6 Air Pollution: impact of atmospheric nitrogen deposition	Pressure	H7110 Active raised bogs, H7120 Degraded raised bog, H9180 Mixed woodland on base-rich soils associated with rocky slopes, H91J0 Yew-dominated woodland	Site Nitrogen Action Plan	Natural England

7 Disease	Threat	H9180 Mixed woodland on base-rich soils associated with rocky slopes	Develop a plan to prevent and/or control Chalara disease	Forestry Commission, Natural England
8 Invasive species	Threat	H9180 Mixed woodland on base-rich soils associated with rocky slopes, H91J0 Yew-dominated woodland	Develop a plan to prevent and/or control Muntjac deer	Forestry Commission, 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

When peat is exposed to air it loses its water-retaining qualities as well as developing cracks that increase the speed of water loss. This leads to changes in vegetation in a way that has a positive feedback effect towards peat loss and a vegetation dominated by birch and purple moor-grass. Due to past peat cutting and drainage in preparation for cutting, plus subsequent colonisation by trees and rhododendron, the water table on the bog is too low to conserve the peat resource and support bog vegetation in the long term.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
1A	Undertake works aiming to bring the water table to the surface and maintain it at that level for as much of the year as possible, including tree removal, blocking of ditches, reprofiling of peat faces and construction of bunded cells on slumping slopes and in peat cuttings. Water levels on adjoining areas of thin peats or mineral soils should also be considered. Restore a marginal lagg fen to conserve the peat body and prevent succession to non-target habitats.	£2,000,000	2014-17	National Nature Reserve (NNR) management plan	Not yet determined	Natural England	n/a

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
1B	Secure appropriate planning permissions to enable bog restoration works (see examples in action 1A) to be undertaken, with the aim of bringing the water table to the surface and maintaining it there.	£1,690	2015-16	Regulation: Grant Appropriate Planning Permission	Not yet determined	Not yet determined	Lake District National Park Authority

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
1C	Delivery partners to work together with landowner to seek Flood Defence 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.	Staff time	2015-16	Regulation: Flood Defence Consent	Not yet determined	Natural England	Cumbria County Council, Environment Agency

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
1D	Investigate the possibility of amending the SSSI which underpins the SAC designation to include all land of hydrological importance to the bog within the SSSI boundary.	£20,000	2015-25	Designation strategy: Notification Amendment	Not yet determined	Natural England	n/a

2 Invasive species

Parts of the site are affected by invasive plant species. Rhododendron is invasive, can cover large areas and smothers bog vegetation as well as preventing rainfall from reaching the peat. It is difficult and expensive to remove when mature. *Kalmia angustifolia* is potentially invasive and should also be removed.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
2A	Undertake works to eradicate Rhododendron from the site as it is invasive, smothers bog vegetation and affects site hydrology. *Kalmia angustifolia* is potentially invasive and should also be removed.	Included under action 1A	2014-17	National Nature Reserve (NNR) management plan	Not yet determined	Natural England	n/a

3 Inappropriate scrub control

Scrub and tree growth on the bog, which is already damaged by past peat cutting, further affects the bog vegetation and peat through transpiration, interception of rainwater and shading. Scrub control is necessary to prevent such effects. As part of this, removal of any dense and large trees requires a felling licence and may be subject to Forestry Regulation EIA.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
3A	Advise landowners / managers about removal of scrub and any associated dense or large trees from areas of deep peat and any other areas that impact on the SAC features. This is to benefit the bog by reducing shading and increasing the availability of rainwater. Any Felling Licence required is covered under Action 5B.	Staff time	2014-17	Advice	Staff time	Natural England	n/a

4 Deer

High browsing pressure from deer means that favourable condition can only be maintained through fencing coppice coupes and canopy gaps. As well as taking time and money, this means that it is not possible to manage certain parts of the wood.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
4A	Control deer numbers on site and maintain at an appropriate level. Control needs to be undertaken in conjunction with adjoining landowners and preferably at a regional or national level.	Staff time	2014	Advice	Staff time	Natural England	n/a

5 Forestry and woodland management

A conifer plantation on part of the bog has completely shaded out the bog vegetation and is likely to lower the water table.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
5A	Advise landowners / managers regarding removal of plantation conifers and Christmas trees from areas of deep peat and any other areas that impact on the bog features.	Staff time	2014-17	Advice	Staff time	Natural England	n/a

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
5B	Delivery partners to work together with landowners to secure Felling Licences under the Forestry Act 1967 (and permission under the Environment Impact Assessment (Forestry) Regulations 1999 where necessary) for the removal of plantation conifers and Christmas trees, and any other dense or large trees from areas of deep peat and any other areas that impact on the bog features.	Staff time	2014-17	Regulation: Felling Licence	Staff time	Natural England	Forestry Commission

6 Air Pollution: impact of atmospheric nitrogen deposition

N deposition exceeds site critical loads but any effects are masked on the bog by unfavourable hydrology. There is no evidence for effects on the woodland but lichens are poorly represented.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
5A	Further investigate potential atmospheric nitrogen impacts on the site based on application of guidance from Chief Scientist Group Nitrogen Task and Finish Group.	Not yet determined	2014-17	Investigation / Research / Monitoring	Not yet determined	Natural England	n/a

7 Disease

Chalara disease of ash is likely to become an issue in the future and has the potential to adversely affect the woodland interest feature through death of ash trees.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
6A	Prepare a plan at national and site level to address possible impacts on the woodland should *Chalara* and other new diseases likely to have a devastating effect become prevalent at this site.	Staff time	2014-16	Advice	Staff time	Natural England	Forestry Commission

8 Invasive species

Muntjac deer are likely to become a pressure in the woodland in the future and have the potential to advsersely affect the interest features of the site through browsing trees, shrubs and ground flora.

Action	*Action description*	*Cost estimate*	*Timescale*	*Mechanism*	*Funding option*	*Delivery lead body*	*Delivery partner(s)*
7A	Prepare a plan at national and site level to address possible impacts on the woodland should muntjac deer become present at this site. Preventative action to stop them reaching the site is preferable.	Staff time	2014-16	Advice	Staff time	Natural England	Forestry Commission

Site details

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

Qualifying features

#UK Special responsibility

Roudsea Wood & Mosses SAC	H7120 Degraded raised bogs still capable of natural regeneration
	H7110# Active raised bogs
	H9180# *Tilio-Acerion* forests of slopes, screes and ravines
	H91J0# *Taxus baccata* woods of the British Isles

Site location and links

Roudsea Wood & Mosses SAC

Area (ha) **470.45** *Grid reference* **SD347807**	Map link
Local Authorities	Cumbria
Site Conservation Objectives	European Site Conservation Objectives for Roudsea Woods & 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.

Roudsea Wood & Mosses SAC

River basin	North West RBMP
WFD Management catchment	Kent/Leven
WFD Waterbody ID (Cycle 2 draft)	n/a

Overlapping or adjacent protected sites

Site(s) of Special Scientific Interest (SSSI)	
Roudsea Wood & Mosses SAC	Roudsea Wood & Mosses SSSI

National Nature Reserve (NNR)	
Roudsea Wood & Mosses SAC	Roudsea Wood and Mosses NNR

Ramsar	
Roudsea Wood & Mosses SAC	n/a

Special Areas of Conservation (SAC) and Special Protection Areas (SPA)	
Roudsea Wood & Mosses SAC	n/a

Version	*Date*	*Comment*
1.0	04/12/2014	