

Site Improvement Plan

Arnecliff and Park Hole Woods

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)

UK0030142 Arnecliff & Park Hole Woods SAC

Site description

Upland oak woodland with holly, hard fern and a species-rich fern community. Of particular interest is a large population of the Killarney Fern. The site consists of East Arnecliff Wood, part of Park Hole Wood (both ancient semi-natural woodlands) and part of West Arnecliff wood (ancient semi-natural/ancient replanted woodland).

East Arnecliff Wood rises on the southern bank of the River Esk. Pedunculate oak, rowan and birch are widespread and abundant. Wych elm is locally frequent and there is a widespread shrub layer of hazel, some holly and occasional hawthorn. The upper acidic parts have widespread wavy-hair grass, with greater woodrush, hairy woodrush, bilberry, scattered heather, hard fern and mosses. West Arnecliff Wood is contiguous with East Arnecliff Wood. The wood rises up from Glaisdale beck and is west facing.

Park Hole Wood is a mixed deciduous wood occupying a south facing valley. There is a mixture of mature and sub-mature oak and birch. Alder is scattered near the beck. Hazel is widespread in the shrub layer with scattered or locally frequent holly, hawthorn and blackthorn. The herb layer is moderately diverse and includes hard shield fern, tufted hair grass, and sedges.

Several springs are present among the rocky areas which provide damp, sheltered and shaded conditions in which a rich fern and moss flora thrives. This includes the locally rare species Tunbridge filmy fern and hay scented buckler fern. The regionally rare wood fescue grass is also present on this site. East Arnecliff wood also contains a few shallow pools.

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 Invasive species	Threat	H91A0 Western acidic oak woodland	Hand-pulling of regenerating Western Hemlock	North York Moors National Park Authority
2 Forestry and woodland management	Threat	H91A0 Western acidic oak woodland, S1421 Killarney fern	Ongoing monitoring of Sessile Oak regeneration and possible tree planting	Natural England, North York Moors National Park Authority
3 Air Pollution: impact of atmospheric nitrogen deposition	Pressure	H91A0 Western acidic oak woodland, S1421 Killarney fern	Site Nitrogen Action Plan	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 Invasive species

Western Hemlock was felled from the site in 2012 to encourage natural regeneration of native broadleaves, however, regeneration from the remaining seedbank remains an issue. If the regeneration is not pulled, the Oak woodland feature (H91A0) could be threatened as the Western Hemlock may dominate.

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
1A	Hand-pulling of regenerating Western Hemlock	Not yet determined	2014-24	Invasive Control Plan: Invasive Species Control Programme	Volunteering	North York Moors National Park Authority	n/a

2 Forestry and woodland management

The regeneration of Oak and native broadleaves is important for the integrity of the Oak woodland feature (H91A0) and to also maintain a suitable microclimate for the Killarney fern feature (S1421). There is the potential threat that natural regeneration of Oak/native broadleaves may be insufficient to ensure favourable status of the woodland feature and the Killarney fern.

Action	Action description	Cost estimate	Timescale	Mechanism	Funding option	Delivery lead body	Delivery partner(s)
2A	The monitoring of Sessile Oak regeneration to determine whether additional planting is required. This is to ensure there is sufficient regeneration.	Not yet determined	2017	Investigation / Research / Monitoring	Not yet determined	Natural England	North York Moors National Park Authority
2B	The monitoring of native broadleaf regeneration to determine whether additional planting is required. This is to ensure suitable humidity and shading is provided for the Killarney fern population.	Not yet determined	2017	Investigation / Research / Monitoring	Not yet determined	Natural England	North York Moors 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>
2C	The planting of Sessile Oak. This is subject to the outcome of site monitoring and may not be necessary.	£2,100	2018-2020	Habitat creation / restoration strategy: Improvements to habitat connectivity	Not yet determined	Natural England	North York Moors National Park Authority
2D	The planting of native broadleaves. This is subject to the outcome of site monitoring and may not be necessary.	£2,100	2018-2020	Habitat creation / restoration strategy: Improvements to habitat connectivity	Not yet determined	Natural England	North York Moors National Park Authority

3 Air Pollution: impact of atmospheric nitrogen deposition

Nitrogen deposition exceeds site relevant critical loads for the Oak woodland feature (H91A0) and for the Killarney fern feature (S1421).

<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	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

Site details

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

Qualifying features

#UK Special responsibility

Arnecliff & Park Hole Woods SAC	H91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles S1421 <i>Trichomanes speciosum</i> : Killarney fern
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Site location and links

Arnecliff & Park Hole Woods SAC

Area (ha) 52.49	Grid reference NZ786049	Map link
Local Authorities	North Yorkshire	
Site Conservation Objectives	European Site Conservation Objectives for Arnecliff & Park Hole Woods 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.

Arnecliff & Park Hole Woods SAC

River basin

[Humber RBMP](#)

WFD Management catchment

Esk and Coast

WFD Waterbody ID (Cycle 2 draft)

GB104027068070

Overlapping or adjacent protected sites

Site(s) of Special Scientific Interest (SSSI)	
Arnecliff & Park Hole Woods SAC	Arnecliff & Park Hole Woods SSSI

National Nature Reserve (NNR)	
Arnecliff & Park Hole Woods SAC	n/a

Ramsar	
Arnecliff & Park Hole Woods SAC	n/a

Special Areas of Conservation (SAC) and Special Protection Areas (SPA)	
Arnecliff & Park Hole Woods SAC	n/a

<i>Version</i>	<i>Date</i>	<i>Comment</i>
v1.0	29/10/2014	

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