

# Site Improvement Plan

## Bredon Hill

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](mailto: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](mailto:enquiries@naturalengland.org.uk)

**This Site Improvement Plan covers the following Natura 2000 site(s)**

**UK0012587    Bredon Hill SAC**

## Site description

Bredon Hill is an outlier of the Cotswolds with remnants of wood pasture and many veteran trees. Their dead wood supports one of the three known populations of the Violet click beetle *Limoniscus violaceus*, in the UK.

## 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 Forestry and woodland management	Pressure/Threat	S1079 Violet click beetle	Formulate and implement a wood mould continuity strategy for the Violet click beetle population	Natural England
2 Feature location/ extent/ condition unknown	Pressure/Threat	S1079 Violet click beetle	Survey of Violet click beetle, to identify site distribution	Natural England, Research institute
3 Disease	Threat	S1079 Violet click beetle	Monitor for the impact of Ash die-back, and investigate the effect of tree death on the wood mould persistence and continuity	Natural England
4 Air Pollution: impact of atmospheric nitrogen deposition	Pressure	S1079 Violet click beetle	Reduce the impact of atmospheric nitrogen deposition	Natural England
5 Climate change	Threat	S1079 Violet click beetle	Monitor and plan for the effect of increased losses due to storms and changed environment	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 Forestry and woodland management

The lack of succession in veteran tree cohorts is an issue, as current planting will only benefit the beetles after about 400 years and it is uncertain how long tree surgery will prolong the veterans' lives. The beetle depends on the production of humid wood mould within decaying trees and the amount of available wood mould in the SAC is unknown.

<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>
<b>1A</b>	Undertake an assessment of the veteran tree population and its replacements within Bredon Hill SAC.	£20,000	2015-19	Investigation / Research / Monitoring	Natural England	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>
<b>1B</b>	Undertake an assessment of the rate of veteran tree losses within Bredon Hill SAC.	£7,500	2015-19	Investigation / Research / Monitoring	Natural England	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>
<b>1C</b>	Use the results of the Violet click beetle survey (action 2A) to identify the wood mould resource across the site.	£1,000	2016-20	Investigation / Research / Monitoring	Natural England	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>
<b>1D</b>	Determine when the Violet click beetle preferred wood mould habitat becomes available and how long it lasts within the trunks of veterans.	£30,000	2015-20	Investigation / Research / Monitoring	Natural England	Natural England	n/a
<b>1E</b>	Estimate the future gaps in continuity of available wood mould habitat.	£10,000	2016-20	Investigation / Research / Monitoring	Natural England	Natural England	n/a
<b>1F</b>	Draw up a strategy to address gaps in wood mould habitat continuity.	£10,000	2017-21	Habitat creation / restoration strategy: Creation of new habitat	Natural England	Natural England	n/a
<b>1G</b>	Implement wood mould habitat continuity strategy.	£200,000	2015-30	Rural Development Programme for England (RDPE): Environmental Stewardship Higher Level Scheme (HLS)	Rural Development Programme (RDPE)	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>
<b>1H</b>	Seek specialist advice on tree surgery increasing the risk of <i>Chalara</i> infection in veterans, as against the risk of storm damage/loss to veterans without remedial surgery.	Staff time	2015-25	Investigation / Research / Monitoring	Natural England	Natural England	n/a

## 2 Feature location/ extent/ condition unknown

There is a current lack of information on the distribution across the site of the rare and secretive Violet click beetle.

<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>
<b>2A</b>	Undertake a survey of Violet click beetle using emergence trapping to identify the distribution on site and understand what its habitat requirements are.	£10,000	2015-20	Investigation / Research / Monitoring	Natural England	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>
<b>2B</b>	Carry out a literature review including the collation and translation of foreign papers on Violet click beetle research.	£10,000	2015-19	Investigation / Research / Monitoring	Natural England	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>
<b>2C</b>	Investigate new methods (Pheromone lures) to survey for Violet click beetle, to properly understand its distribution over the site.	£30,000	2015-20	Investigation / Research / Monitoring	Natural England	Research institute	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>
<b>2D</b>	Determine the Violet click beetles' ability to disperse, so it is clearer what effect management has where it is currently not present.	£30,000	2015-20	Investigation / Research / Monitoring	Natural England	Research institute	n/a

### 3 Disease

Ash die-back caused by the *Chalara fraxinea* fungus threatens the large number of current veteran ash trees and their replacements on which the Violet click beetle depends. Whilst the beetle is known to use other species elsewhere (eg Windsor), ash dominates the trees on Bredon Hill. The scale of this impact on the persistence and continuity of wood mould is uncertain and is likely to be beyond human control.

<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>
<b>3A</b>	Monitor the SAC for presence of Ash-dieback disease.	£20,000	2015-25	Investigation / Research / Monitoring	Natural England	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>
<b>3B</b>	Investigate the effect of tree death on the wood mould persistence and continuity.	£15,000	2015-25	Investigation / Research / Monitoring	Natural England	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>
<b>3C</b>	Monitor national research on Ash die-back and take appropriate site management action.	£50,000	2015-25	Habitat creation / restoration strategy: Other	Natural England	Natural England	n/a

#### 4 Air Pollution: impact of atmospheric nitrogen deposition

Nitrogen deposition exceeds site relevant critical loads. This site is sensitive to nitrogen deposition.

<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>
<b>4A</b>	Control, reduce and ameliorate atmospheric nitrogen impacts.	Not yet determined	2015-20	Site Nitrogen Action Plan	Not yet determined	Natural England	Not yet determined

#### 5 Climate change

The likelihood of increased violent storm events and the viability of ash in a changed environment threatens the veteran ash trees on which the beetle depends.

<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>
<b>5A</b>	Monitor, and attempt to mitigate losses from violent storm events and changing environmental conditions.	£30,000	2015-50	Investigation / Research / Monitoring	Natural England	Natural England	n/a

## Site details

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

### Qualifying features

#UK Special responsibility

#### Bredon Hill SAC

S1079 *Limoniscus violaceus*: Violet click beetle

### Site location and links

#### Bredon Hill SAC

Area (ha) **359.86**

Grid reference **SO965406** [Map link](#)

Local Authorities

Worcestershire

Site Conservation Objectives

[European Site Conservation Objectives for Bredon Hill 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.*

### **Bredon Hill SAC**

*River basin*

[Severn RBMP](#)

*WFD Management catchment*

Warwickshire Avon

*WFD Waterbody ID (Cycle 2 draft)*

n/a

## Overlapping or adjacent protected sites

Site(s) of Special Scientific Interest (SSSI)	
Bredon Hill SAC	Bredon Hill SSSI

National Nature Reserve (NNR)	
Bredon Hill SAC	Bredon Hill NNR

Ramsar	
Bredon Hill SAC	n/a

Special Areas of Conservation (SAC) and Special Protection Areas (SPA)	
Bredon Hill SAC	n/a

<i>Version</i>	<i>Date</i>	<i>Comment</i>
1.0	25/02/2015	

[www.naturalengland.org.uk/ipens2000](http://www.naturalengland.org.uk/ipens2000)

