Plantlife

Looking Out for Small Things (LOST) project

Rapid Woodland Assessment

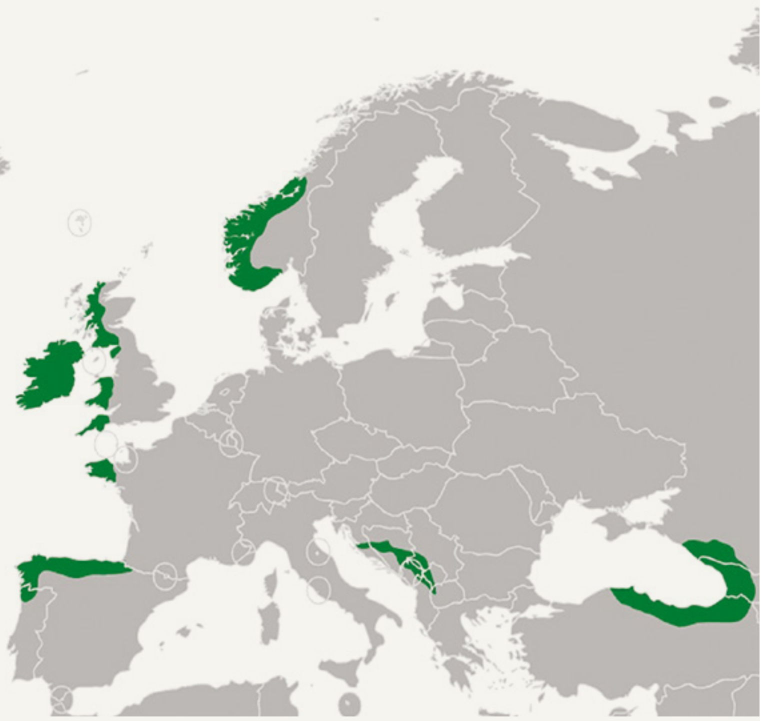
Find out if your local woodland could be home to internationally important lichens, mosses & liverworts

heritage lottery fund
LOTTERY FUNDED

Guidance notes

The Rapid Woodland Assessment (RWA) is part of the Looking Out for Small Things (LOST) project, which focuses on conserving the Lake District's Atlantic woodlands. These woodlands are part of the world's 'temperate rainforest' – a globally rare habitat characterised by high rainfall and mild, humid conditions. In Britain, these rainforests are restricted to western upland and coastal areas, and can be found across the Lake District National Park and wider Cumbria. These woodlands are internationally important for their lichens and bryophytes (mosses and liverworts).

Despite their conservation importance, Atlantic woodlands face a range of threats from site specific issues such as shading due to invasive species and loss of grazing, to wider issues such as tree disease, air pollution and climate change. Plantlife is working with land managers, woodland owners, local communities, visitors and schools to better understand the region's Atlantic woodland, to ensure the safeguarding of this special habitat.



Distribution of 'temperate rainforest' in Europe

We need your help!

The RWA helps establish a woodland's potential to support lichens and bryophytes that are characteristic of Atlantic woodlands. While we are particularly interested in these 'lower plants', the questions in this survey relate to physical features of woodland that are important for many groups of species.

By taking part in the RWA you will:

- Understand the condition of a woodland and its potential to support Atlantic woodland lichens and bryophytes.
- Identify site-specific threats to lichen and bryophyte communities, which can inform conservation management.
- Help Plantlife to understand the condition of the region's Atlantic woodland, which will inform and target conservation work, including carrying out specialist surveys and practical habitat management.

The RWA form can be found at the back of this booklet. For each section in the RWA you will get a score to help you interpret the results.

If you would like additional information or have any questions, please get in touch. Contact details can be found on the the LOST project website www.plantlife.org.uk/LOST.

Where to do the survey

The RWA can be completed in woodlands found within the LOST project area which is shown on the map (the area inside the red line). This area has the right climate to support Atlantic woodland lower plants, but a woodland's potential to support them will depend on a range of other factors, including woodland age and its management history. Where you choose to carry out a survey is dependent upon you!

Derived from MiniScale by Ordnance Survey. ▶
Reproduced from Ordnance Survey digital map data.

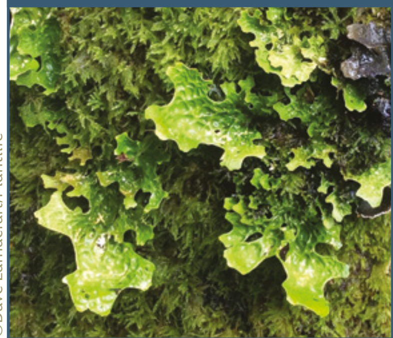
If you own a woodland...

We are interested in woodland owners carrying out the RWA and sending us the results. The survey will feed back information, indicating the woodland's potential to support lower plants. Please see the LOST website for further information and access to management resources.

If you are taking part through a volunteer group or as an individual...

We are working alongside local communities and volunteer groups to survey woodlands that we have identified as being likely to be of interest. If your group has considered taking on woods to survey, please get in touch and we can provide sites for you. Alternatively, you may know of local woodlands you would like to survey. If there is no public right of way through the woodland, please ensure you obtain landowner permission to access the site.

Why are lichens and bryophytes special?



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Lichens

Atlantic woodlands are globally important for their lichens, which play a vital role in ecosystems. Lichens are a symbiosis between a fungus and a photosynthetic partner (usually an alga, or a cyanobacterium). The UK has a responsibility to conserve many rare species, such as the tree lungwort (pictured).

Bryophytes

Bryophytes are simple plants that include mosses and liverworts. They were among the first plants to colonise land. Over half the European species can be found in the UK, and our Atlantic woodlands rival the cloud forests of the tropics for their bryophyte diversity.

What size area should you cover?

The RWA is a relatively quick and rough assessment of a site so we have not been prescriptive about the size of the area you should include in your survey. The results you provide will give a valuable general overview of the wood rather than being a detailed survey of a small area within a wood. The survey will take around 1-2 hours, but this might vary depending on size, woodland type and weather. If you can comfortably walk the whole site in this time, then include the whole woodland in your survey. If you are surveying a large woodland, or a woodland with areas that have a distinctly different character, you might find it easier to break the site up and complete several separate surveys. The important thing is to record where you survey, as you will be asked to mark the area surveyed on a map when you submit your results.

Before you begin

You are responsible for your own health and safety. We recommend you follow the precautions below for a safe and successful visit to the woods.

Health and safety

- Check weather forecasts prior to entering the woods and do not enter woods in high winds or stormy weather.
- Ensure you have appropriate clothing for the weather and take drinks and snacks.
- Take care on uneven or slippery ground and keep to footpaths.
- Ensure you have a working mobile phone with you and let someone know where you are going and when you expect to return. If possible, avoid working alone.

Equipment

Essential

- Clipboard and pencil
- Survey form (at the back of this booklet, further copies can be downloaded from our website)
- These guidance notes
- A map of the site
- Mobile phone

Useful

- A camera or phone camera
- Plantlife's lichen ID guides 1 and 2 (contact us to request free copies or download from our website)
- A compass
- GPS device
- A tree ID guide

Carrying out the RWA

At the start of your visit, fill in the table at the top of the form, including:

- **Grid reference:** (beginning NY, SD.) If you don't have a GPS, you can look up the grid reference online: www.gridreferencefinder.com. Alternatively, providing you know the exact location of the woodland, you can mark this on a map when you enter your results online.
- **Area covered:** this is to help us understand how much of a site has been covered in your survey. If you have a map, you can mark the area covered on it. You can then copy this onto the online map when you enter results online.
- **Slope:** enter 'flat', 'gentle' or 'steep' to give us an idea of how sloped the site is. If the slope varies, answer this based on what most of the survey area is like.
- **Main aspect:** this refers to the direction the slope of the site is facing and can be worked out using a compass. If the site is flat, leave this blank. If the aspect varies, answer this based on what most of the area is like.
- **Time taken:** tell us how long it took to do the survey to the nearest half an hour.

1 Woodland composition and structure

Tree species: record which tree species you see and how abundant they are

In the boxes next to each tree species you see, write 'D', 'A', 'F', 'O' or 'R' to indicate how common that species is. This is known as the 'DAFOR' scale and is a quick way to tell us roughly how common something is: D = Dominant (more than 75% of the trees are this species), A = Abundant (50-75%), F = Frequent (25-50%), O = Occasional (10-25%) and R = Rare (less than 10% of the trees are this species).

Do this for the 'canopy' and 'sub-canopy' trees separately. The canopy trees are the tall trees that form the main woodland canopy. Sub-canopy trees are shorter e.g. hazel, rowan, hawthorn and holly tend to be sub-canopy species. Larger canopy-forming trees such as oak, ash, beech and sycamore will also exist in the sub-canopy before they reach maturity.

What will this tell us?

This helps us understand the available habitat as different lichens and bryophytes have preferences for different bark types. The pH and smoothness of the bark will affect what grows. Mature oak and ash tend to support a high diversity of species. In the sub-canopy hazel and old holly trees can be important for lichens that only grow on smooth bark.

Understanding the composition of the sub-canopy also tells us how the woodland is regenerating, and whether in the future the make-up of the woodland will be similar to how it is now, or whether other species will become more dominant over time.

Tree age profile

Select the option on the form that best fits the woodland, considering the whole area you are surveying.

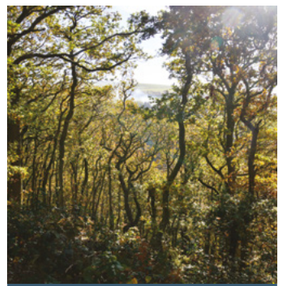
What will this tell us?

Old trees tend to support a greater variety of lichens and bryophytes, and many rare species are only found on old trees. Certain lichens will only be found on trees that are hundreds of years old, when the bark becomes fissured. Even-aged woods have fewer different substrates (or growing surfaces) for lichens and bryophytes.

Tree density

Select the option that best fits the whole area you are surveying.
The photos below provide an indication of what each description might look like.

Young trees, closely packed, few gaps



Mature trees, closely packed, few gaps

Mature trees with some gaps between canopies

Mature/veteran trees with larger gaps between canopies

What will this tell us?

This helps us understand the structure of the woodland and how much light is reaching tree trunks and other microhabitats below the canopy. Light is a crucial factor for lichens in particular. Changing woodland management has led to woodlands becoming more shady, resulting in a loss of lichen diversity.

Ground cover of ivy and bramble

Consider the whole site or area of the site you are surveying, and select the best fit.

Example of sparse bramble/ivy cover

Example of dense bramble cover

What will this tell us?

Where ground cover of ivy and bramble is high, it can mean they out-compete bryophytes on the woodland floor, shade lichens near the bases of tree trunks, and it can be a sign of a lack of grazing/browsing.

2 Habitat features

The features listed on the form provide a range of habitats for different lichens and bryophytes. The more features you find, the greater diversity the woodland is likely to support. Look out for the features as you walk around the woodland. You don't need to quantify how common the features are, but you can make a note in the comments section to tell us if a feature is particularly common. Score for each feature you see, even if you only see it once. These photos of veteran tree features will help you identify these.

Tree with dead branches in crown, and large horizontal branches that provide habitats for ferns, mosses and lichens.

Old pollard: single trunk that splits into multiple stems around head-height (usually result of historic management). The base may be very old.

Trees with rot holes in the trunk. The tree on the left also has sapwood exposed at the bottom left, where the bark has decayed – another veteran tree feature.

3 Lichens and bryophytes

Bryophyte cover on the ground

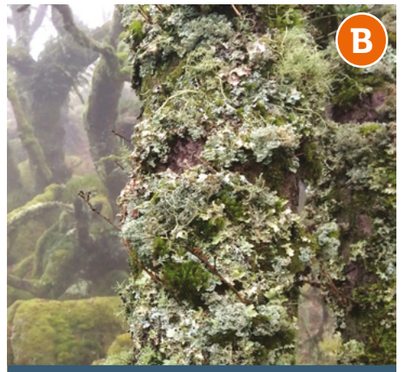
Tick one option only. Base this assessment on what you can easily see from the path. Where the ground is largely covered by other plants (e.g. bramble, bracken) and you cannot clearly see mosses and/or liverworts on the ground, record as 'very little/no bryophyte cover visible'. Bryophytes are likely to be more abundant where the ground cover of other plants is more sparse or patchy.

Include boulders, dead wood and banks in your assessment of bryophyte cover on the ground. These can be rich places for bryophytes if they are not overgrown with scrub.

Woodland floor and boulders carpeted with bryophytes – an indication of high-quality Atlantic woodland.

Lichens on tree trunks

For this section, tick and score for as many options as apply. We are not expecting you to examine every tree closely, so this is about the general impression of the tree trunks you see as you walk around the woodland.



Trunk with white 'splats' and luxuriant leafy or bushy lichens.

Large old tree with white crust lichen on the trunk (these lichens might look like white paint and indicate the presence of ancient dry bark lichen communities).

'Bushy' lichens

These lichens have long branches and a single point of attachment to the trunk.

'Leafy' lichens

These lichens have leafy lobes. The bottom surface is attached to the trunk but the edges are loose.

'Crust' lichens

These lichens form a crust on the trunk, as though they have been painted on. Cannot be peeled away.

What will this tell us?

The presence of a range of bryophytes and lichens indicates that the woodland is in good condition. Indicator species are of particular interest and their presence signals good-quality Atlantic woodland, with a history of ecological continuity (i.e. the woodland has not changed and has had conditions that are favourable for lichens and bryophytes for a long period of time). Lichen and bryophyte communities can take a long time to establish but if conditions change, they can quickly decline and be lost from an area.

Indicator species

If you think you see one of these four indicator species, take a photo and record the details of its location (if possible, take a 10-figure grid reference and write down a description of the location in the comments section e.g. '*Tree lungwort found on large ash tree by river, next to large fallen tree*'). If you do not have a GPS, mark the location on a map and give a description. ID notes for each indicator species are provided below. Lichen ID can be tricky, so don't worry if you are unsure. Please send us your photographs when you enter your survey data online, so we can confirm whether an indicator species has been found.

Optional extra: you can find further information on a larger range of indicator species in Plantlife's *Lichens of Atlantic Woodlands in the Lake District: Guides 1 & 2 and Mosses and Liverworts of Atlantic Woodlands in the Lake District* available on our website and in hard copy. If you think you find any of these indicator species, we welcome your photos, so please feel free to snap away and send us your pictures, even if you are not sure of the identification.

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Tree lungwort, *Lobaria pulmonaria*

This species has loosely attached lobes with a distinctive network of ridges, giving the appearance of the inside of a lung. It is brownish-green when dry (pictured, above left) but turns green when wet. Note that there are many green leafy lichens, but the ridges on the tree lungwort are what gives it the distinctive 'lung-like' appearance.

©Dave Lamacraft/Plantlife

'Stinky' *Sticta* species

This group of species have rounded grey, brown or blackish-brown lobes and when wet they smell 'fishy' (rub with a finger and smell). Found on tree trunks in damp habitats, often amongst moss.

©April Windle

Loop-lichens, *Hypotrachyna* species

This group of luxuriant leafy lichens often form grey/green patches cloaking the trees. On the underside, you will notice a dark surface with rhizines that extend to the margins of the lichen. Dependent on the species, a powdery substance (soredia) may be present or absent. See Guide 2 for further information on this character.

©April Windle

Cudbear lichens, *Ochrolechia* species

A very distinctive 'white splat' that is normally found on the trunk of the tree. Cudbear lichens often form sunshine orange fruits and/or bright green powder (soredia). Guide 2 provides further information on these characters.

4 Threats assessment

Complete the threats assessment, providing a score according to how common each threat is across the site. The higher the score, the more serious and widespread the threat is. Use the comments section to note down where the threats are located in relation to any indicator species or habitat features you identified in sections 2 and 3. You can also add in comments about any additional threats you see (e.g. other invasive species). Links to further information on non-native invasive species can be found on our website.

For most threats, the score ranges from 0-3 depending on how common the threat is. For 'lack of oak regeneration', it is only possible to score 0 or 3. If there is any sign of oak regenerating over the last few decades (i.e. there are some young oaks, either young trees, saplings or seedlings), we would not consider there to be a threat from a lack of oak regeneration. This is because oak is a long-lived tree, so it does not need to produce large numbers of replacements. However, if there is no young oak (whether young trees, seedlings or saplings) coming through, then score this '3'.

Dense holly growth: while holly is a native tree and an important part of the woodland ecosystem (old holly trees can support rare lichens), vigorous holly growth can spread and overtake the shrub layer, blocking out light reaching other tree trunks.

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Laurel (pictured) and rhododendron: both evergreen non-native species are highly invasive, casting dense shade on neighbouring trees and ground flora. Note that they will often be without flowers, but can be recognised by their large glossy, evergreen leaves.

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Himalayan balsam: a highly invasive non-native species that can form dense, tall (up to 3m) stands, particularly along floodplains. When not in flower, it can be identified by its hollow, reddish stems and long (to 15cm), pointed and serrated leaves.

Dense regeneration of beech, sycamore or other species: reduction in grazing and changing conditions in a woodland can lead to dense regeneration of certain tree species, particularly beech and sycamore. These young trees cast shade and affect lower plants on the ground and on tree trunks. The photo shows a thick layer of beech saplings crowding the lower trunks of the mature trees.

5 Management assessment

Please answer the questions on management as best you can. Use the comments section to add details if you would like to.

Woodland management terminology:

- 'Coppice': tick this option if a whole area of trees has been recently cut back to the stumps. If you see an area of historic coppice (see photo D which shows large 'stools' at the base of trees, with lots of stems growing out of them), you can note this in the comments section.
- 'Thinning': tick this option if most trees in an area remain standing, but you can see that some trees in the area have been felled to create more space and light.

What will this tell us?

This will give us an idea of how many woods are being actively managed, and will help us provide guidance to woodland owners and managers on how to manage specific threats and maximise the woodland's potential as an Atlantic woodland habitat.

Submitting your results

Thank you for completing the RWA. Please submit your data and any photos using our online form, which can be found on the LOST project webpage: www.plantlife.org.uk/LOST

By submitting your results, you will contribute to our regional understanding on the distribution and condition of Atlantic woodland with potential to support important lichens and bryophytes. This will help target conservation and highlight areas in need of further survey.

You can sign up to receive Plantlife updates, including information on opportunities to get involved with the Looking Out for Small Things project (e.g. free training on lichen & bryophyte ID and woodland management). See project website for further details.

If you are unable to submit your results online, you can email a scanned copy of your form to us, or post your form to the address below, marked FAO Looking Out for Small Things (LOST). If posting, please include your name and contact details if you would like us to send you further information about the survey results and wider project.

Further information and support

Please visit the LOST project website www.plantlife.org.uk/LOST
or contact the LOST Senior Project Officer, April Windle **April.Windle@plantlife.org.uk**

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HRH The Prince Of Wales is our Patron

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Rapid Woodland Assessment

Date		**Site name**	
Grid reference		**Slope** (flat/gentle/steep)	
Area covered (you will be able to mark this on a map when you submit results online)		**Main aspect** (N, S, E, W)	
		Time taken (approx)	

1 Woodland composition and structure

Tree species	Canopy				Sub-canopy			
	Alder	☐	Willow	☐	Ash	☐	Oak	☐
	Ash	☐	_____	☐	Beech	☐	Rowan	☐
	Beech	☐	_____	☐	Birch	☐	Sycamore	☐
	Birch	☐	_____	☐	Hawthorn	☐	_____	☐
	Oak	☐	_____	☐	Hazel	☐	_____	☐
	Sycamore	☐	_____	☐	Holly	☐	_____	☐
	Use the DAFOR scale to indicate how abundant a species is in the boxes above: D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare. If absent leave blank.							

Tick the appropriate box and enter the score in the right-hand column

			Score
Tree age profile	Young even-aged wood (i.e. recently established trees)	0	
	Mature, even-aged wood (most trees are the same size)	1	
	Mixed age wood, with mature/old trees and younger trees	2	
	Wood with many old/big trees with fissured bark	3	
Tree density	Young trees, closely packed, few gaps between tree canopies	0	
	Mature trees, closely packed, few gaps between tree canopies	1	
	Mature trees, with some gaps between tree canopies	2	
	Mature/veteran trees, with larger gaps between tree canopies	3	
Ground cover of bramble and ivy	Abundant cover throughout	0	
	Frequent areas of dense cover	1	
	Occasional: some dense patches but scattered	2	
	Rare: sparse cover/isolated patches	3	
		Total score for Section 1	

Interpreting your score:
0-3 indicates low potential; 4-5 indicates moderate potential; 6+ indicates high potential

2 Habitat features

Tell us about the habitat features in the woodland.
Tick all that apply and enter the score in the right-hand column. If you have a map, you might like to mark on the key features. When you enter your results online, you can upload a scanned copy or photo of the map.

Tick the appropriate box and enter the score in the right-hand column			**Score**
Glades	A glade/clearing in the wood, over 20m across	2	
Veteran tree features	Presence of very wide trees (>2.5m girth)*	2	
	Old trees with dead wood in canopy/dead limbs	2	
	Old trees with large decay holes/hollows	2	
	Presence of old pollards	2	
	Old trees with large horizontal branches	2	
	*Or a tree especially wide for its species		
Dead wood	Sparse-lying dead wood, small diameter (<20cm)	0	
	There is only newly cut dead wood (any size)	1	
	Frequent lying dead wood, small diameter (<20cm)	1	
	Lying dead wood, large diameter (>20cm)	2	
	Rotting tree stumps	2	
	Standing dead wood (diameter >20cm)	2	
Rock features	No rock features	0	
	Small boulders	2	
	Large boulders	2	
	Natural rock faces	2	
Wet features	No features	0	
	Boggy areas	2	
	Streams/rivers	2	
	Wet rock faces	2	
	Ravines/waterfalls	2	
		Total score for Section 2	

Interpreting your score:
0-3 indicates low potential; 4-5 indicates moderate potential; 6-11 indicates high potential; 12+ indicates very high potential

3 Lichens and bryophytes

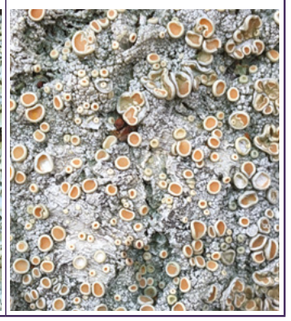
Record here the abundance of lichens and bryophytes:

			Score
BRYOPHYTES: Tick **one option only** and enter the score in the column			
What is the bryophyte cover like on the woodland floor, including on logs and rocks?	Very little/no bryophyte cover visible	0	
	Patchy bryophyte cover visible	1	
	Larger areas of bryophyte cover visible	2	
	Woodland floor is carpeted with bryophytes (as in photo A)	3	
LICHENS: Tick **as many options as apply** and enter the score in the column			
What is lichen cover like on tree trunks?	Trunks are mostly bare/covered in ivy or moss	0	
	Trunks with some lichen are fairly frequent (but growth is not luxuriant)	1	
	Only a few trunks with lichen, but they have luxuriant lichen growth (as in photo B)	1	
	Trunks with luxuriant lichen growth (as in photo B) are fairly frequent	3	
	There are large, old trees with lichens on the trunk (these may be crust lichens, as in photo C)	3	
		Total score for Section 2	

Interpreting your score:
0-2 indicates a lower potential site; 3-5 indicates moderate potential; 6+ indicates a high value site.

Indicator species

Look out for these indicators while you are surveying (see accompanying ID guides). If you see them, take a photo and record the location (using a GPS if you have one, or make a note of where it is so you can locate it on a map).

See guidance notes or Guide 1 for photos and ID notes		See guidance notes or Guide 2 for photos and ID notes	
Lobaria species	*Sticta* species	*Hypotrachyna* species	*Ochrolechia* species
			
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4 Threats assessment

Record threats in the table below

Write the score for each threat in the right-hand column. If you have a map, indicate where the threat is located, and include any comments below (e.g. let us know if threats are located next to important habitat features or indicator species you identified in sections 2 and 3).

Threat type	Threat absent	Threat minor and isolated	Threat extensive in one area	Threat covers large area(s)	Score
Dense or abundant holly growth	0	1	2	3	
Rhododendron/ laurel	0	1	2	3	
Himalayan balsam	0	1	2	3	
Conifers (excluding yew)	0	1	2	3	
Dense regeneration of sycamore/ beech saplings (specify)	0	1	2	3	
Dense regeneration of other species (specify in comments if known)	0	1	2	3	
Lack of oak regeneration: score 3 if there are no oaks in the understorey (i.e. young trees, saplings or seedlings), otherwise leave blank					
				Total threat score	

Interpreting your score:
A score of 2 or 3 for any threat suggests immediate management may be needed. A score of 1 suggests management should be introduced before the threat spreads, particularly where it affects a high value site. Prioritisation will depend on where threats are located in relation to important features.

Use the comments section below to give any additional information (e.g. where threats are located near important habitat features, or to tell us about additional threats you have identified that are not listed):

5 Management assessment

Tell us about any evidence of management you can see by ticking the boxes below (there is no score for this section).

Evidence of grazing/browsing	Y	N
Is the site fenced?		
Is the fencing in good repair/condition?		
Is there any evidence of grazing (e.g. nibbled stems, hoof prints, dung, or you can see grazing animals)?		
If you can tell what animal(s) are grazing the site, let us know here:		

Evidence of other management (tick all that you see)	
Coppice (area where trees have been cut back to ground level)	
Thinning (some young or mature trees have been cut down)	
Scrub clearance (including the clearance of saplings e.g. beech and sycamore regeneration)	
Non-native invasive species management (e.g. removal of laurel/rhododendron, Himalayan balsam)	
Ivy stems cut at the base of trees	

6 Additional comments

Here you can report anything else you think is relevant.
If you met with the landowner and asked about site management, make a note of your discussion here.

Thank you for your time and effort in completing this woodland assessment. Your results will help to identify important sites for conservation and highlight where management work is needed to help protect lichens and bryophytes. If you are interested in surveying more woods you can download this form from our website.

Please remember to submit your data and any photos you took using our online form, which can be found on the LOST project webpage: www.plantlife.org.uk/LOST

If you are unable to submit your results online, you can email a scanned copy of your form to us, or post your form to the address below, marked FAO Looking Out for Small Things (LOST) project. If posting, please include your name and contact details if you would like us to send you further information about the survey results and wider project.

Plantlife, Brewery House, 36 Milford Street, Salisbury, Wiltshire, SP1 2AP.