

Rapid Rainforest Assessment Survey form



Use this form to:

- **RECORD** your survey results including grid references where applicable to help map key features and species, and plan management. You may also find it useful to mark features on a site map as you go.
- **INTERPRET** what your results mean by calculating scores for each section which give you an overview of the current condition of your site and its potential to support rainforest lichens and bryophytes.
- **FIND LINKS TO SPECIFIC MANAGEMENT GUIDANCE** based on different scenarios in your wood.

Brief instructions are given to each section of the survey below. Refer to the [RRA guidance notes](#) for more detailed instructions and background information. Once you have completed the survey form, find detailed management guidance in [Rainforest lichens and bryophytes – a toolkit for woodland managers](#).



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Start the RRA here

Date		Site name/reference	
Surveyor		Grid reference	

1 Woodland composition

Use the DAFOR scale to indicate the abundance of each tree species in the canopy and then the understorey.

D = Dominant (> 75%), A = Abundant (50-75%), F = Frequent (25-50%), O = Occasional (10-25%), R = Rare (<10%). Leave blank for none. You can add any species not listed in the extra rows. Then use the 'interpreting tree composition' table on the next page to find out what this might mean for your woodland and where to go for management recommendations.

Native species

Species	Canopy	Understorey
Alder		
Ash		
Aspen		
Birch		
Bird cherry		
Blackthorn		
Hawthorn		
Hazel		
Holly		
Juniper		
Oak		
Rowan		
Scots pine*		
Willow		
Wych elm		

Non-native species

Species	Canopy	Understorey
Beech		
Cherry laurel		
Cotoneaster		
Douglas fir		
Other conifer (non-native)		
<i>Rhododendron ponticum</i>		
Sitka		
Sycamore		
Western hemlock		

* Native to Scotland only

Interpreting woodland composition:

Based on what you recorded above, choose ONE description from the canopy table that best describes the canopy composition at your site, then **AS MANY DESCRIPTIONS AS APPLY** from the understorey table. These will point you to some specific interpretation and management guidance. You will also be able to calculate your **woodland composition score**.

CANOPY: choose as many descriptions as apply		
Description	SCORE	Management guidance
Mixed species, though one or two may be more abundant (but not with abundant beech or non-native conifers).	+2	N/A
Canopy is mainly hazel.	+2	For specific guidance on hazel woods see Managing stands of hazel .
Canopy is mainly one native species (excluding hazel woods).	+1	See section on lack of tree species diversity here .
Beech is frequent in the canopy (also choose this option if sweet chestnut is frequent).	-1	See section on managing beech here .
Beech is abundant in the canopy (also score this option if sweet chestnut is abundant).	-2	See section on managing beech here .
Non-native conifers are abundant in the canopy.	-2	See section on restoring conifer plantation to native woodland here .

UNDERSTOREY: choose as many descriptions as apply		
Description	SCORE	Management guidance
A patchy understorey of native shrubs.	+2	N/A
There are no/very few native understorey shrubs/trees.	-1	See section on lack of tree species diversity here .
There is little to no regeneration of key or desired canopy-forming species.	-1	If shading is preventing regeneration see Diverse woodland structure and composition . Assess whether over-grazing/browsing may be an issue in Section 5.
There is a dense understorey which is thicket-like in places.	-2	See section on excessive regeneration that cannot be addressed with grazing here . Where applicable see management of invasive native/non-native species here e.g. for beech/sycamore regeneration.
Some invasive non-native species present in understorey.	No score - this will be scored in Section 6	See section on invasive non-native species, e.g. <i>Rhododendron</i> , here .
Invasive non-native species frequent understorey.	No score - this will be scored in Section 6	
TOTAL Woodland composition score		

Woodland composition score:

Add together your score for the canopy and understorey to see what this might mean for your survey area.

4	This indicates the current composition is favourable for a diverse assemblage of lichens and bryophytes.
1-3	This indicates the wood may benefit from diversification and/or help establishing appropriate regeneration to encourage development of a diverse assemblage of lichens and bryophytes.
0	This indicates the wood may have issues with invasive species or dense regeneration that need tackling to avoid negative impacts to lichens and bryophytes.
<0	This indicates the current composition is not favourable for lichens and bryophytes and there are multiple issues to address.

2 Woodland structure

For each attribute, circle the score that best matches the description of your survey area, and find out where to look for management guidance for different scenarios. Total your score for the table to see what this says about the structure of your survey area overall.

Attribute	Description	Score	Management guidance
Tree age profile	Young, even-aged wood (i.e. recently established trees).	-2	See Habitat fragmentation for guidance on new woodland.
	Mature, even-aged wood (most trees same age/size).	-1	See section on lack of tree age diversity here .
	Mixed age wood with mature and younger trees.	+1	See Current and future veteran trees for guidance on establishing future veterans/veteran features.
	Mixed age wood with veteran, mature and younger trees.	+2	This is desirable, with a range of niches and a succession of trees to become future veterans.
	Wood with many veteran trees, lacking younger mature trees.	+1	See Current and future veteran trees for guidance on establishing future veterans.
Canopy cover and open space	Closed canopy with limited open space.	-2	See Diverse woodland structure and composition for guidance on thinning and open space creation.
	Mosaic of closed and open canopy (with around 30% open areas).	+2	Desirable for bryophytes under denser canopy cover and lichens in better-lit areas.
	Very open and well-lit e.g., wood pasture.	+2	This well-lit habitat is desirable for many rare and important lichens.
Field layer: bramble, ivy and/or bracken	Abundant cover throughout.	-2	If there is dense cover, see Grazing and browsing (if grazing is not an option see Managing woods without grazing and browsing). See also section on managing bramble and ivy here .
	Frequent areas of dense cover.	-1	
	Occasional: may be some dense patches but scattered.	+1	
	Rare: sparse cover/isolated patches.	+2	
	Specify whether this relates to bramble, ivy and/or bracken		
Field layer: heather, bilberry/blaeberry and/or woodrush	Dense cover throughout, covering dead wood/boulders and growing high around the base of tree trunks.	-1	See Grazing and browsing (if grazing is not an option see Managing woods without grazing and browsing).
	Patchy cover throughout that may cover large areas but not smothering moss mats or tree bases.	+2	This can help retain humidity for rich bryophyte communities to develop (where dense growth is kept in check by grazing).
	Rare or absent.	0	This may not be an issue if the wood has not historically had these shrub species present.
	Specify whether this relates to heather, bilberry/blaeberry and/or woodrush		
TOTAL Woodland structure score			

Woodland structure score:

6+	This indicates the current structure of the wood is favourable for a diverse assemblage of lichens and bryophytes. NB – it is important however to consider more localised conditions around important habitat features and lichen/bryophyte communities of interest. The following two sections will focus on these.
4-5	This indicates the current structure of the wood is OK but could be improved for lichens and bryophytes. Existing lichen and bryophyte interest may be under threat and issues may need immediate management to prevent losses. Check the management guidance for the options you selected.
1-3	This indicates the current structure of the wood is in need of improvement for lichens and bryophytes. Existing lichen and bryophyte interest may be under threat and issues may need immediate management to prevent losses. Check the management guidance for the options you selected.
0	This indicates the current structure of the wood is not ideal for rainforest lichens and bryophytes. Existing lichen and bryophyte interest may be under threat and issues may need immediate management to prevent losses. Check the management guidance relevant to the options you selected.
<0	This indicates the current structure of the wood is not desirable for rainforest lichens and bryophytes and there is unlikely to be interest present at the moment. Check the management guidance for the options you selected.

3 Habitat features

- Tick features that are present and record grid references (a central 6-figure reference for widespread features and 10-figure references for isolated features).
- Record any management issues affecting features (e.g. ivy, bramble, invasive species, dense regeneration etc.).
- Score the overall abundance for each of the four feature categories (veteran trees, dead wood, rocky substrates and wet features) from 0-3 where 0 = none, 1 = rare (i.e. features are present but uncommon/covering only a small part of the site), 2 = frequent (i.e. features are not uncommon but neither are they very abundant), 3 = dominant (i.e. the features are very abundant/cover much of the site).

For each of the feature categories you will find relevant links to management guidance. Total your score for the four feature categories to see what this says about the habitat features in your survey area overall.

Feature category	Feature description	✓	Grid reference	Any management issues affecting the feature	Management guidance
Veteran tree features (note that these features may be present on trees that are not yet considered to be veteran by their age).	Old trees with large decay holes/ hollows/ dead limbs.				See Current and future veteran trees for managing existing veterans and recruiting new ones if few features recorded. If veterans are impacted by shading from dense regeneration/a dense canopy, see here . If impacted by ivy, holly or other invasives, see relevant sections here .
	Old trees with exposed wood.				
	Presence of dry underhangs.				
	Presence of old pollards or old coppice stools.				
	Presence of old hazel stands i.e. that have not been managed as coppice.				See Managing stands of hazel .

Veteran tree score (0-3)	
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Feature category	Feature description	✓	Grid reference	Any management issues affecting the feature	Management guidance
Dead wood	Large diameter lying dead wood (>20 cm).				If dead wood is sparse and/or there is no standing dead wood/rotting stumps see Retention of dead wood . If features are overgrown with ivy, bramble or other invasives see relevant sections here , and if affected by deep shade and dense regeneration see here .
	Standing dead wood (diameter >20 cm).				
	Rotting tree stumps.				

Dead wood score (0-3)	
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Rocky substrates	Boulders.				If features are overgrown with ivy, bramble or other invasives see relevant sections here , and if affected by deep shade and dense regeneration see here .
	Rock faces.				

Rocky substrate score (0-3)	
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Wet features	Flushes/boggy areas.				Aim to retain canopy cover along watercourses for bryophytes. If features are overgrown with ivy, bramble or other invasives see relevant sections here , and if affected by dense regeneration see here .
	Streams/rivers.				
	Wet rock faces.				
	Ravines/waterfalls.				

Wet features score (0-3)	
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Habitat features score:

6+	This suggests the wood has a range of important habitat features for lichens and bryophytes. Whether the site supports a range of lichens and bryophytes will depend on whether there has been continuity of favourable conditions on those features. The future survival of species interest will depend on maintaining suitable conditions.
4-5	The wood has some important habitat features for lichens and bryophytes but these are limited. It is very important to ensure favourable conditions, particularly if the features are limited, as the lichen and bryophyte interest may be dependent on a few isolated features.
<4	Habitat features for lichens and bryophytes are somewhat limited. Consider opportunities for creating features where this is possible e.g. through veteranisation and creation of dead wood habitats.

4 Lichens and bryophytes

Complete the table below, focussing on lichen cover on tree trunks and bryophyte cover on the woodland floor (including ground, banks, lying dead wood and rock features). Circle one score for lichens and one score for bryophytes. Total your score to see what this says about current lichen and bryophyte interest in your survey area. You can find where to look for management guidance in the right-hand column of the table.

	Description	Score	Management
Lichens	Trunks mostly lacking lichens (bare or covered in ivy/moss).	-1	<p>If lichen/bryophyte cover is limited, it is important to establish why. If there is dense shading from an overhead canopy, see <u>Diverse woodland structure and composition</u>. If they are being shaded out and smothered by a dense shrub/field layer, see <u>Grazing and browsing</u>. If there is very dense regeneration, see <u>Excessive regeneration that cannot be addressed with grazing</u>.</p> <p>If native/non-native species are causing shading/smothering, see relevant sections <u>here</u>.</p>
	Small number of trees with lichen on trunks – there are lichens on some trunks but lichens are not abundant.	+1	
	Larger number of trees with lichens on trunks but dominated by a small range of species.	+2	
	Larger number of trees with lichens on trunks including some with luxuriant growths of leafy and bushy lichens (photo A).	+3	
Bryophytes	Very little/no bryophyte cover visible.	-1	
	Patchy bryophyte cover visible but dominated by one or two species.	-1	
	Patchy bryophyte cover visible including a range of species.	+1	
	Larger areas of bryophyte cover visible – the ground/boulders are carpeted - but dominated by one or two species.	+1	
	Larger areas of bryophyte cover visible – the ground/boulders are carpeted – and a range of species present.	+3	
TOTAL Lichens and bryophytes score			

Lichens and bryophytes score:

6+	This suggests a site where conditions are conducive for a range of lichen and bryophyte communities to thrive. Note that it is important to consider this score alongside the other sections in the RRA – current interest doesn't necessarily mean the site is currently in optimum condition, as a negative change in conditions will not immediately cause a decline in species interest (i.e. there is a time-lag effect).
4-5	This suggests a site where conditions are suitable for some species and/or communities, but not for others, or where there may be small pockets of interest associated with areas where conditions are/have historically been most favourable.
3	This suggests a site where conditions are suitable for one community, but not for others, or where there may be isolated interest associated with areas where conditions are/have historically been most favourable.
<3	This suggests the site is not currently high value for lichens or bryophytes. However, this doesn't rule out the possibility of isolated or remnant interest. Rather the score suggests that the general situation in the wood is not conducive to abundant growth of lichens or bryophytes.

Indicator species:

Record the location of any indicator species (see guidance notes for species lists and links to ID guides). For widespread species, a central 6-figure grid reference for the population is sufficient. If the species is confined to a particular area, use a 10-figure grid reference. Record management issues affecting (or likely to affect) the species e.g. presence of nearby invasives. This will help you to prioritise management actions. Take a photo for verification.

Species name	Grid reference if applicable	Abundance (DAFOR scale)	Habitat feature/ substrate	Any management issues?	Photo taken?

5 Grazing and browsing

Use the table to assess grazing/browsing levels in your survey area. Look at each feature in turn: tree regeneration, young shoots on hazel, field layer, bryophytes and boulders. Then consider all these factors together to establish whether grazing/browsing is too high, moderate (desirable) or too low.

Feature	If grazing/browsing is too high you will see:	If grazing/browsing is moderate (desirable) you will see:	If grazing/browsing too low you will see:
Tree regeneration	Very little/no tree regeneration. No regeneration at all of more palatable species (e.g. oak, rowan, hazel, willow ash and holly).	Occasional tree regeneration including of palatable species.	There is frequent tree regeneration.
Young shoots on hazel	No young shoots are escaping the bases of hazel bushes.	Some young shoots are escaping from the bases of hazel bushes but not sufficient for this to kill the older shoots.	Masses of shoots are escaping from the bases of hazel, with older stems being killed off by this growth.
Field layer	Field layer dominated by grasses.	Bramble, bracken and other vascular plant cover is rare to occasional, contained to discrete patches by browsing.	Bramble, bracken, etc. frequent (>25% cover) and/or young ivy spreading over ground and up tree trunks. NB in shaded situations bramble and bracken may be absent but ivy can be frequent.
Bryophytes	Ground is dominated by bryophytes with very limited vascular plant cover (excluding bracken).	Ground is still dominated by bryophytes but vascular plant growth (other than bracken) is present.	Vascular plant growth is smothering mats of mosses.
Boulders	Lots of boulders scraped bare of late succession moss mats (e.g. pleurocarpous mosses such as <i>Rhytidiadelphus loreus</i> , <i>Loeskeobryum brevirostre</i> and <i>Hylocomium splendens</i>).	Boulders have a mixture of early and late succession bryophyte communities. Early succession communities of bryophytes on small boulders are being maintained (e.g. liverworts such as <i>Harpanthus scuatus</i> , <i>Scapania umbrosa</i> , <i>Diplophyllum albicans</i> , <i>Marsupella emarginata</i> , <i>Scapania gracilis</i> and <i>Dicranum majus</i>).	Small boulders are being smothered by late succession moss mats and colonised by vascular plants e.g. ivy, bilberry, heather, bramble etc, with early succession communities absent.
Grazing score (circle one option)	-3	+3	-3

Grazing/browsing score:

-3	<p>Grazing/browsing levels are too high or too low. If levels are too high, note that temporary guards for individual saplings are preferable to exclosures. Any exclosure should be temporary – to allow a burst of regeneration but avoid detrimental impacts on lichens and bryophytes.</p> <p>If levels are too low, grazing and browsing should be implemented, but at sites where this is not possible see Managing woods without grazing and browsing. If regeneration is very dense see Excessive regeneration that cannot be addressed with grazing.</p>
+3	Grazing/browsing levels are moderate (optimum). Maintain existing levels of grazing/browsing and continue to monitor.

6 Invasive species

Invasive non-native species:

For each invasive non-native species, tick the appropriate box to record how extensive it is in your survey area. It is important to record the location invasives in relation to any species or habitat features of interest recorded in Section 3 and 4 so you can use this to plan and prioritise management action. *Note that for conifers, this section only relates to regeneration. Established conifers and PAWS restoration are dealt with in Section 1.* Once complete, work out your score based on the overall extent of invasive non-native species.

Species name	Absent (✓)	Minor and isolated (✓)	Localised at low levels (✓)	Low levels throughout (✓)	Localised at high levels (✓)	High levels throughout (✓)	Notes on location of issue in relation to species of features of interest
Rhododendron							
Non-native conifer regeneration							
Beech regeneration							
Sycamore regeneration							
Cherry laurel							
Himalayan balsam							
Cotoneaster							
Shallon							
Giant rhubarb							
Skunk cabbage							

Choose a score, considering the overall extent of invasive non-native species across the site, and record it in the box below:

Invasive non-natives absent	Invasive non-natives minor and isolated	Invasive non-natives localised at low levels	Invasive non-natives at low levels throughout	Invasive non-natives localised at high levels	Invasive non-natives at high levels throughout
0	-1	-2	-3	-4	-5

Invasive non-native species score	
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Invasive non-native species score:

0	No intervention needed
-1 to -2	Intervention needed immediately to eradicate and prevent spread. Prioritisation should be based on proximity to important species and habitat features, bearing in mind that it is easier to deal with INNS before they become extensive.
-3 to -5	Intervention needed to eradicate INNS, halt further spread and restore better-lit conditions for any remaining interest in affected areas. Prioritisation should be based on proximity to important species and habitat features.

See relevant sections of **Management of invasive native/non-native species** for more detailed guidance.

Native invasive species:

For each issue described, tick the appropriate box to record how extensive it is in your survey area. It is important to record the location of issues in relation to any species or habitat features of interest recorded in Section 3 and 4 so you can use this to plan and prioritise management action. Once complete, work out your score based on the overall extent of these issues.

Species name	Absent (✓)	Minor and isolated (✓)	Localised at low levels (✓)	Low levels throughout (✓)	Localised at high levels (✓)	High levels throughout (✓)	Notes on location of issue in relation to species or features of interest
Dense holly							
Ivy on trees							

Choose a score, considering the overall extent of native invasive species issues across the site, and record it in the box below:

Native invasives absent	Native invasives minor and isolated	Native invasives localised at low levels	Native invasives at low levels throughout	Native invasives localised at high levels	Native invasives at high levels throughout
0	-1	-2	-3	-4	-5

Native invasives score	
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Native invasives score:

0	No intervention needed.
-1 to -2	Intervention may be needed immediately if located near important species and habitat features.
-3 to -5	Intervention needed to control the issues, prevent further spread and restore better-lit conditions for any remaining interest in affected areas. Prioritisation should be based on proximity to important species and habitat features.

See relevant sections of **Management of invasive native/non-native species** for more detailed guidance.

7 Ash dieback

Use the following two tables to work out the risk level and prevalence level for your site. Multiply these to calculate a threat score. This will give you an indication of the extent to which ash dieback is an issue for lichens at your site currently, and the urgency of implementing mitigation.

Risk: Circle the risk level based on how important ash is for lichens at your site.

Description	Risk description	Risk level	Key management recommendations
Site dominated by other tree species, with ash absent or rare.	Limited risk	0	Unlikely to be a major issue.
Ash is a component but with plenty of other trees present & lichen interest spread across a range of tree species.	Lower risk	-1	May need some planning for. Even where ash is a smaller component of the wood, it will still be important to assess what species are on ash and whether they exist on other species. Where lichen interest is only on ash or ash has the best examples of that interest, plan mitigation.
Ash supports important lichen species, but other native species also present.	High risk	-2	Likely to be an issue that will need planning for e.g. consideration of 'alternative' tree species, see Tree diseases and pests .
Site is dominated by ash, with most lichen interest on ash trees.	Very high risk	-3	Likely to be a big issue that will need planning for e.g. consideration of 'alternative' tree species and possibly species translocation, see Tree diseases and pests .

Prevalence: circle the prevalence level based on how common ash dieback is at your site.

DAFOR	Prevalence level
Rare	1
Occasional	2
Frequent	3
Abundant	4
Dominant	5

Threat score: calculate by multiplying the risk level and prevalence level.

Risk level		Prevalence level		Ash dieback threat score
	X		=	

Ash dieback threat score

-6 or lower	Immediate concern – ash is identified as an important tree for lichens at the site, and ash dieback is established. Immediate mitigation should be implemented.
-4 to -5	If site is important for ash but dieback is reported as rare or occasional, mitigation should still be put in place urgently to avoid potential losses.
0 to -3	If the site is dominated by ash but ash dieback is rare, immediate mitigation is still needed.

Management:

If ash is identified as supporting important lichen interest on your site, it is important to consider mitigation. See [Ash dieback](#) for detailed recommendations. An important consideration will be looking at what alternative tree species you have available that could support the same lichen interest. The DAFOR assessment made in Section 1 will help you to determine this.

Overall RRA SCORE

Add up your scores from Sections 1-6 to get your overall RRA score and enter it here:

What does this indicate?

25+	Very good	Suggests a site that is currently in very good condition to support a range of temperate rainforest lichens and bryophytes. There might still be management issues that need addressing, and attention should be focussed on conditions around important habitat features and species, to ensure these remain favourable.
15-24	Good	Suggests a site that is currently in good condition to support some temperate rainforest lichens and bryophytes. However, there are aspects that could be improved and there may be a number of management issues that need addressing.
5-14	Fair	Suggests a site that has potential to support temperate rainforest lichens and bryophytes but current condition is not optimal. There are a range of management issues that need to be addressed, likely including restructuring, grazing adjustments and management of invasive species.
<5	Poor	Suggests a site that is not currently in good condition to support temperate rainforest lichens and bryophytes. There are a range of complex and extensive management issues that need to be addressed, likely including considerable restructuring, grazing adjustments and management of invasive species.



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We are Plantlife

For over 30 years, Plantlife has had a single ideal – to save and celebrate wild flowers, plants and fungi. They are the life support for all our wildlife and their colour and character light up our landscapes. But without our help, this priceless natural heritage is in danger of being lost.

From the open spaces of our nature reserves to the corridors of government, we work nationally and internationally to raise their profile, celebrate their beauty and protect their future.

Join us in enjoying the very best that nature has to offer

For a plant-rich world

