

The south west's rainforests

Clean air and a warm, damp climate in the south west mean that some of its oldest woodlands (known as temperate rainforests or Atlantic woodlands) are home to some intriguing and sometimes rare lower plants. These lower plants – the ferns, mosses, liverworts and lichens – are ancient. They pre-date humans, flowers, trees and even dinosaurs. They are the hidden gems of woodlands which these Branching Out guides will help you to discover.

You can learn more about Atlantic woodlands, mosses, liverworts, ferns and lichens in the other Branching Out guides:

- Discover Forest Ferns
- Discover Lichens
- Discover Mosses and Liverworts

Want to get involved or find out more?

Help us to learn more about the condition of the region's Atlantic woodlands by taking part in our **Rapid Woodland Assessment** <http://tiny.cc/PlantlifeRWA>

Look for **Building Resilience in South West Woodlands** on Facebook to keep up to date with project news and events.

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Branching Out

Am I in a Rainforest?

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HRH The Prince of Wales is our Patron

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 Plantlife: saving wild plants

 @Love_plants

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We are Plantlife

For 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.



Did you know that temperate rainforest can be found down the west coast of Great Britain – from Scotland to the south west?



Use this guide to find out if the wood you are in is a rainforest.

Look out for these symbols



Read this to unlock some information



Touch or look closely



Explore



The Lake District, south west England, western Scotland and Wales are all home to 'temperate' rainforest. Have a look around the wood you are in using this guide. The more ticks you collect in the white boxes, the more likely it is that your wood is a rainforest.



What is a rainforest?

Rainforests are very special – you don't find them growing in many parts of the world. Imagine rainforests as a recipe, to make one you need lots of different ingredients, including:

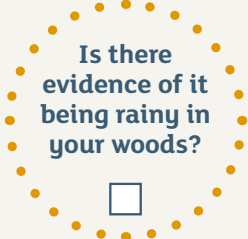
- A very old woodland, around 400 years old
- Different types of trees at different ages
- Big mossy boulders, dead trees and logs

And most importantly... lots and lots of rain!



How can we tell if this is a rainy place?

- Rain or puddles from recent rain
- Lots of tiny streams and rivers
- Areas of boggy, damp ground



Rainforests are full of water

In rainforests it rains a lot. Some of this moisture is trapped in the air by the leaves of the trees. This makes the air damp. The ground is also damp as fallen rain drains in to the rivers and streams that cut through the wood. Which of these water features can you find in your wood?

Waterfalls



Wet rock faces



Fast-flowing rivers or streams



Rainforests have lumpy, bumpy ground

Rainforest (a habitat) is often found on slopes where the ground is covered with rocks and boulders. These lumps and bumps create different conditions (microhabitats) for lichens and mosses to grow in. The rainforests in the UK are important as they are home to lots of rare lichens and mosses.

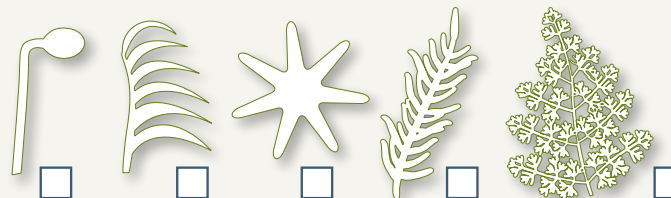


The miniature world of mosses

Mosses are some of the oldest plants on the planet. They were here even before the dinosaurs. Find a rock completely covered in green moss. Touch it, how does it feel? Is all the moss the same colour? Now take a really close look at it.

Can you see any tiny insects living in this mossy world?

Can you find these shapes in the moss?



Did you find mossy boulders and different shapes of moss?



Rainforests are made up of lots of different types of trees

Having a diversity (a range of different types or species) of trees creates different habitats for a greater number of lichens, plants and animals.

These are some of the leaves and seeds of trees found in the south west's rainforests. Look on the forest floor. Can you match leaves and seeds that you find with the outlines?



All these trees are deciduous (they lose their leaves in winter). Too many evergreen trees (those that keep their leaves in winter), like holly and conifers, can create shade on the forest floor making it hard for new trees or plants to grow.

Did you find lots of different types of trees?





Rainforests have a diverse structure

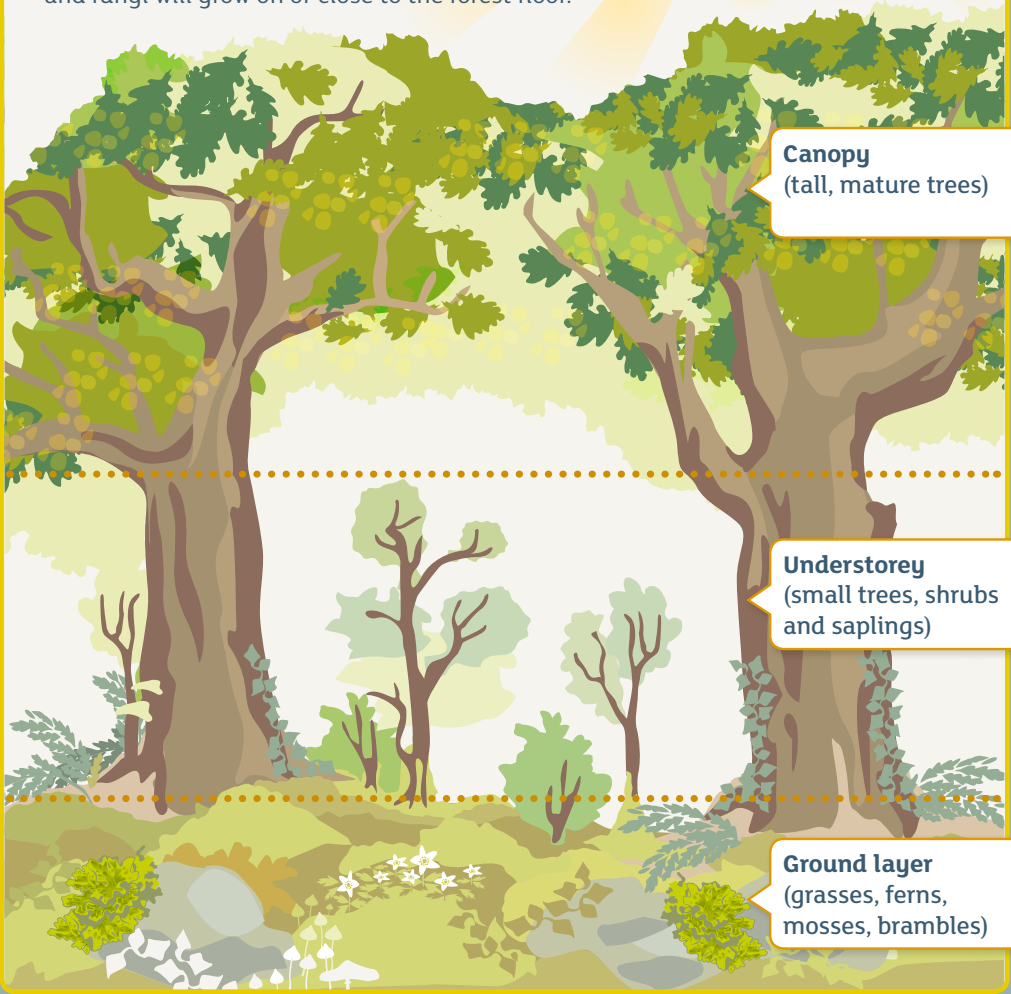
When we talk about a wood's 'structure', we are describing the different heights of the trees and other plants growing in the wood and how they are spaced out.

Top layer: This is called the **canopy**. The tall trees here absorb most sunlight.

Middle layer: This is called the **understorey**. Trees here are either smaller trees (like rowan and holly) or young trees that will eventually grow into the canopy.

Bottom layer: This is called the **ground layer**. Here the shortest plants like flowers, mosses, ferns and fungi will grow on or close to the forest floor.

Sunlight is important as it helps plants and lichens make the energy they need to grow. Without sunlight they can't grow. Larger gaps between trees mean that light can reach lower down into the forest, helping young trees and plants grow. Lichens and mosses on tree trunks and boulders also need plenty of light to reach them.



Canopy
(tall, mature trees)

Understorey
(small trees, shrubs and saplings)

Ground layer
(grasses, ferns, mosses, brambles)



Which of these three pictures look most like the bit of wood you are in now?

Explore a bit further – can you find places that are different?

In this wood, the canopy trees are close together. It is dark and shady below.

A healthy rainforest has trees of different heights and sizes, and places where there are large gaps between the trees.



This wood has lots of bramble and shrubs growing in the understorey.

A healthy rainforest has plants growing in the understorey, but too many can stop the light from reaching the lichens, mosses and other plants that grow nearer to the ground.

This rainforest has young trees, middle-aged trees and big, old trees growing in it. There are gaps in the canopy where sunlight can get into the woods and there are some shrubs in the understorey, but they are not covering the whole area. Light can reach the tree trunks, boulders and ground where our important lichens and mosses will be growing.

This is a healthy-looking rainforest.





Rainforests have trees of different ages growing in them

Can you find trees like these?



Sapling

A young and small tree. You could put your hand or arm around the trunk of a sapling.



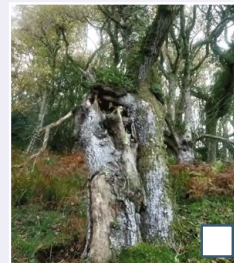
Medium-aged tree

A grown-up would be able to give this tree's trunk a hug and reach all the way around.



Old tree with a large girth

It's a long way around its trunk and so big that you need more than two people to reach around it.



Standing deadwood

Trees that are no longer alive but don't fall over. They won't have leaves or buds, but will have a few twigs or branches and might have lost some or all of their bark.



Ageing a tree

You can tell the age of a tree by counting tree rings, but we don't cut a tree down to tell its age. A way to estimate a tree's age is to count how many hand spans it takes to get all the way round the trunk at your chest height.



5 years



10 years



15 years

How old is the oldest tree you can find?

Let's compare its age to the oldest person you know. Let's imagine a grandma is 75 years old.

How many grandmas old is your tree?

- 1 grandma is 75 years old
- 2 grandmas is 150 years old
- 3 grandmas is 225 years old

Did you find trees of lots of different ages?



Healthy rainforests are looked after

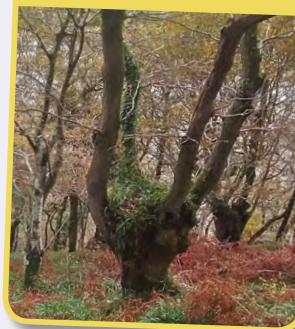
The woods in the south west have been managed by people for hundreds of years. We've used the timber from trees as fuel and as materials for buildings, furniture and boats. We've used the woods to graze sheep and cattle. We also manage woods for nature as they are rich in all kinds of wildlife, from birds, bugs and bats to plants and fungi.

Grazing woods and removing trees or their branches makes woods lighter places with lots of microhabitats that are good for lichens and mosses and lots of other wildlife too.



What signs of management can you see?

Pollarding



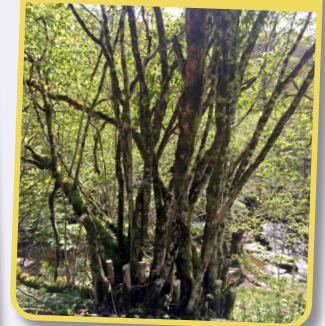
Branches are cut off trees at about 2m from the ground, providing timber for firewood. New branches grow from the trunk.

Tree planting



Often fast-growing conifers are planted as a crop to be used for building materials, paper or fuel when they are old enough. Look for trees in straight rows.

Coppicing



Trees (often hazel) are cut at their base which allows lots of new stems to grow. In the past and sometimes still today, these stems would have been used for building, fencing and crafts. Old hazel coppice can have lots of crusty lichens on it, which look like they have been painted on the bark.

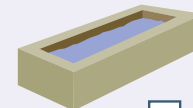
Not just humans

Farm animals can help manage woods too. It used to be common for woods to be grazed by sheep and cattle. This meant that there was less dense growth of shrubs and young trees, and the forest floor was light and open.

Can you see any of these signs of grazing animals in the wood?



Hoof prints



Water trough or containers



Wool in fencing

Now you have explored your woodland, are you in a rainforest?