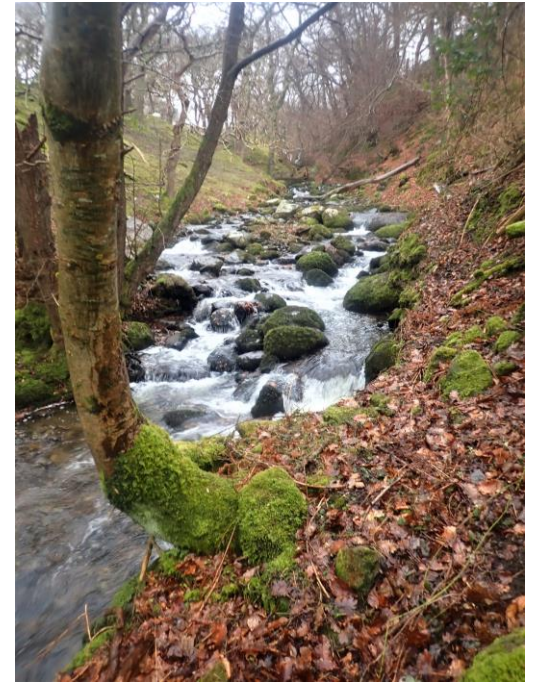


# Which trees grow in a Celtic Rainforest?

In this investigation you will learn about the native trees that create the structure of the Celtic Rainforest habitat in Wales.

Look at the shape of the leaf used for the logo. What type of tree is it and why do you think we used it for the logo?



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# What is a Celtic Rainforest?



These are some of the features of a Celtic Rainforest:

- Very ancient trees, some are over 400 years old!
- The different types of trees, and trees of different ages
- Large rocks covered with mosses, dead trees and decaying logs

And, most importantly... lots and lots of rainwater!



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# The big ancient trees...

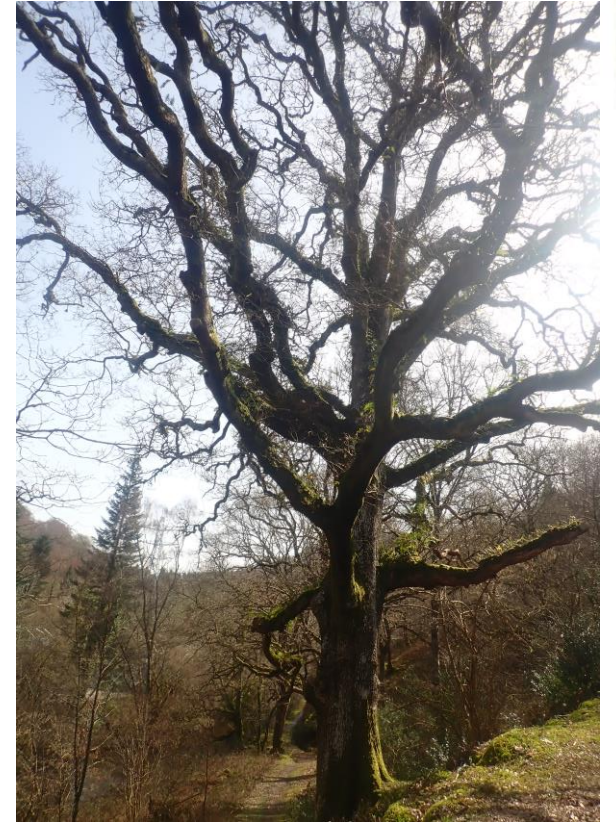
Oak trees tend to be the oldest trees in the Celtic Rainforest. They can live for over 1,000 years.

In April 2013 the Pontfadog oak fell, it was the oldest oak tree in Wales and probably one of the oldest in Europe. It is thought that it has been growing in Y Waun near Wrexham since the year 802.

The oak supports more wildlife than any other tree. Can you reason why?



“...an oak spends 300 years growing, 300 years living and 300 years dying”



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# Are there any other types of ancient trees?

The 'small-leaved lime tree is another long-lived native tree that can live for hundreds of years.

There are less of these trees to be found in our Celtic Rainforests but if you find an old one it's a good indicator that you are in an ancient woodland.

The leaves are eaten by a range of moth caterpillars as well as aphids. These in turn are food for hoverflies, ladybirds and birds. The flowers also attract insects including bees.



Why do you think it is so important to have such old trees?

What else can you find out online about the small leaved lime?



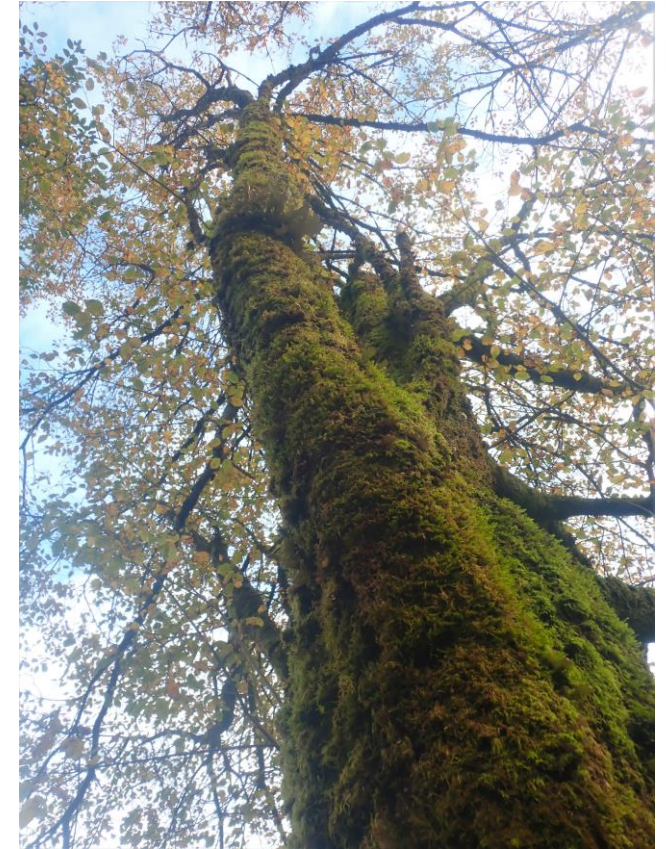
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# The birch...

Birch trees are one of the most important species in the Celtic Rainforest. It is a pioneer species, this means it will quickly grow where there is a gap. In time, the oak will probably take over the space.

The small leaves of the birch tree allow some light to get through to the lower levels of the woodland.

Birch trees can create a habitat for over 300 species of insect.



[Here is a link to a video of birch leaves budding.](#)



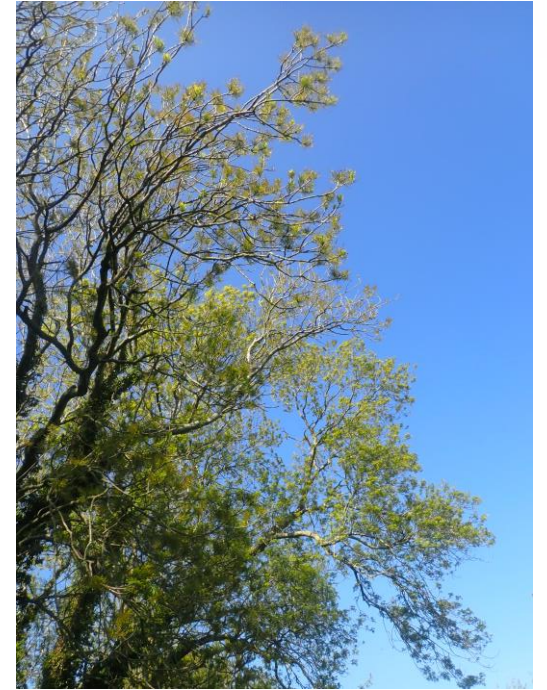
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# What about ash trees?

The ash is another type of native tree found in a Celtic Rainforest.

Ash trees are important for [lichens](#). This is because the leaf pattern allows light to reach the trunk and the fact that the bark is alkali. Some species of lichen need a bark that has a high pH (i.e alkali).

There is much concern that the Ash Dieback disease that is spreading across Wales killing ash trees will also threaten populations of rare lichens.



I wonder what other type of tree has alkali bark?



What else can you find out online about the ash dieback disease and its impact on lichens?



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# What is the Wych Elm story?

Today the Wych Elm is a relatively rare tree found in a Celtic Rainforest, but they used to be very common.

## **Why aren't there many Wych Elm's any more?**

During the 1960's 'Dutch elm disease' spread across Britain and killed most of the Wych Elm trees.

Like the ash, the bark of the wych Elm is alkali. So, many of the lichens that lived on Wych Elm are now found on ash. As the ash trees are now dying too, conservationists are concerned about the future of these lichens.



What else can you find out about Dutch Elm Disease by searching on-line?



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# Sycamore...

The sycamore isn't a native tree so isn't a tree traditionally associated with a Celtic Rainforest.

But, as the bark is alkali and so many ash trees are dying; some conservationists believe, in the interest of the lichens, we shouldn't remove sycamore trees found growing in Celtic Rainforests.

The sycamore leaves create more shadow than ash leaves so they may need careful management if they are to fill the lichen habitat gap.



Have you played with the seeds – what are they commonly known as?



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# Hazel ...

Hazel trees are an important element of the lower canopy. They can grow up to about 12m but they are often smaller than this if they coppiced.

Follow this [link](#) to the 3<sup>rd</sup> minute to learn more about coppicing.



Perhaps you are familiar with their fruits which are edible nuts!



What are the male flowers of the hazel commonly known as?



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# Alder ...

Alder trees grow in wet areas so they tend to be found by streams and in other places where water collects.

The wood of the alder withstands rotting if it remains wet. It has traditionally been used to make good charcoal and it's important for wildlife!



Can you tell the difference between alder and hazel trees? Look carefully the leaves are similar but there are plenty of differences!



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# Rowan / Mountain Ash ...

You might find this species in a Celtic Rainforest but, it can live in cold places, so you will also find it in the mountains.

The pretty flowers and red berries that it can also be found planted in gardens.

The berries are a favorite with many birds but there are also moths that favour the Rowan.



Is it possible for humans to eat the berries ...?  
If so, what do people do with them?



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# Willow

Willow trees tend to grow on wet land.

Willow trees are not indicative of a Celtic Rainforest or an ancient woodland but they can be present in them in wet areas.

There are a number of different species of willow, some are coppiced and used for basket making.



What other uses does willow have?  
What can you find out from an online search?



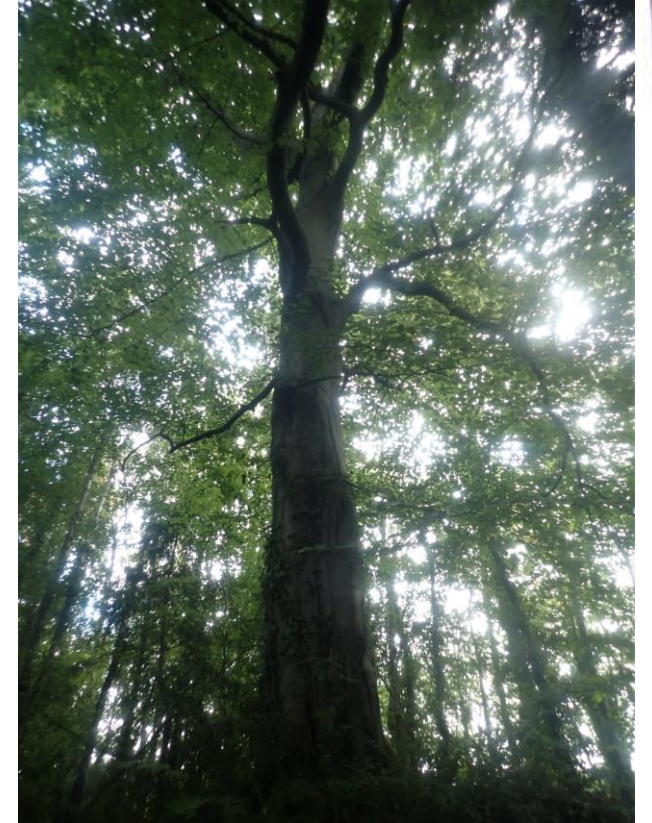
# Beech

Beech trees are native to the south of England and South Wales only. As they can grow very big and compete with oak trees, they are not seen as a good species to be found within a Celtic Rainforest.

Elsewhere in the British Isles however, they can be an important element of ancient woodlands.



[Watch this video to see the stunning colours of the leaves as they change during the autumn.](#)



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# Horse Chestnut

Even though it is deciduous tree the horse chestnut tree isn't native to the British Isles so it's not a species we like to see in the Celtic Rainforest.

As part of our conservation work we are trying to remove non-native tree species from our Celtic Rainforests.



What game do children play with the seeds of this tree?



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# Scots Pine

Scots pine trees were one of the first species to grow across Britain as the glaciers retreated.

They can be an important element of the mixture of trees found in a Celtic Rainforest in Wales but they are more important within the Scottish Celtic Rainforest.



This is the only type of pine tree that is native to the British Isles.



Which birds like the pine tree seeds?



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# Holly...



The holly is a native evergreen tree used to make Christmas decorations.

Holly trees create shelter for birds and the leaves and flowers are important for insects. The red berries are food for birds and small mammals.

In some areas it is growing very densely and creating too much shade so we are managing it to allow more light to the woodland floor to allow other species to grow.

You can learn a bit more about our holly management work in this video at minute 4:20:

<https://youtu.be/fYPsaPWfPac?t=259>



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# Other evergreen species such as conifers and pine trees.

We will come across many other types of evergreen tree species in our woodlands in Wales. These have usually been planted.

As they are not native they don't tend to support as much biodiversity as our native tree species. Also as they are planted close together they create too much year-round shade to allow plants associated with a Celtic Rainforest to grow.



How many different types of evergreen trees can you find in your area?



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# Restoring the Celtic Rainforest

One of the things we are doing as part of this project is to restore Celtic Rainforests that have been damaged by the planting of evergreen and deciduous trees that are not native.



You can learn more about how we are caring for our Celtic Rainforests her:  
<https://celticrainforests.wales/what-do-we-need-to-do-to-convert-the-celtic-rainforest>



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# Why not learn more about some of these trees?



Choose a type of tree and then see how much you can learn about it.

You could make a presentation about it and share it with other pupils?

Or ...

Be creative...? make some art or write a poem about your tree?

Can you learn how to identify your tree in winter too?



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# Useful Links

- [https://www.plantlife.org.uk/application/files/7116/1650/5500/Plantlife\\_Ash dieback and lichens in England.pdf](https://www.plantlife.org.uk/application/files/7116/1650/5500/Plantlife_Ash_dieback_and_lichens_in_England.pdf)
- <https://www.woodlandtrust.org.uk/trees-woods-and-wildlife/british-trees/a-z-of-british-trees/>  
<https://www.britishlichensociety.org.uk/resources/lichens-ash>
- <https://www.nature.com/articles/491672a.pdf>
- <https://www.field-studies-council.org/shop/publications/tree-name-trail/>
- [https://www.woodlandtrust.org.uk/blog/2018/12/which-trees-have-catkins-and-how-to-tell-them-apart/?gclid=CjwKCAjw\\_L6LBhBbEiwA4c46uq000A0ZVFELDkQzqnHd1yXDfCsP0HNAzO1pe6l9MgQlgTUfZbo3hoC4ZUQAvD\\_BwE&gclsrc=aw.ds](https://www.woodlandtrust.org.uk/blog/2018/12/which-trees-have-catkins-and-how-to-tell-them-apart/?gclid=CjwKCAjw_L6LBhBbEiwA4c46uq000A0ZVFELDkQzqnHd1yXDfCsP0HNAzO1pe6l9MgQlgTUfZbo3hoC4ZUQAvD_BwE&gclsrc=aw.ds)



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