

A photograph of a forest with tall, thin trees and a large fallen log in the foreground. A semi-transparent teal rectangle is overlaid on the left side of the image, containing the title and author information.

# Research Briefing **Woodlands in Wales: a quick guide**

---

Author: **Eleanor Warren-Thomas and Elfyn Henderson**  
Date: **May 2017**



**National Assembly for Wales**  
Research Service



The National Assembly for Wales is the democratically elected body that represents the interests of Wales and its people, makes laws for Wales, agrees Welsh taxes and holds the Welsh Government to account.

---

Author: **Eleanor Warren-Thomas and Elfyn Henderson**

Date: **May 2017**

Paper Number: **17-008**

Image from flickr by Gareth Patterson. Licensed under Creative Commons.

The Research Service acknowledges the parliamentary fellowship provided to Eleanor Warren-Thomas by the Natural Environment Research Council, which enabled this paper to be completed.

## Contact Us

**Research Service**  
**National Assembly for Wales**  
**Tŷ Hywel**  
**Cardiff Bay**  
**Cardiff**  
**CF99 1NA**

 : 0300 200 6317

 : [Elfyn.Henderson@Assembly.Wales](mailto:Elfyn.Henderson@Assembly.Wales)

 : [Assembly.Wales/InBrief](http://Assembly.Wales/InBrief)

 : [@SeneddResearch](https://twitter.com/SeneddResearch)

 : [Assembly.Wales/Research](http://Assembly.Wales/Research)

### © National Assembly for Wales Commission Copyright 2017

The text of this document may be reproduced free of charge in any format or medium providing that it is reproduced accurately and not used in a misleading or derogatory context. The material must be acknowledged as copyright of the National Assembly for Wales Commission and the title of the document specified.

## Research Briefing

# **Woodlands in Wales: a quick guide**

---

This briefing summarises key facts and information about woodlands in Wales. It outlines the extent of woodlands and woodland ownership in Wales, and rates of planting and restocking. It also describes the economic contribution of the forestry sector, the importance of woodlands for the environment in Wales, standards for forest management, and the tree diseases currently affecting Welsh woodlands.

---



# Contents

1.	What is the extent and character of woodland in Wales?.....	1
2.	Who owns Welsh woodlands? .....	1
3.	How much new planting or restocking has taken place? .....	1
4.	What is the economic contribution of the forestry sector? .....	2
5.	How important is woodland to the environment? .....	5
6.	How are Welsh woodlands currently managed?.....	5
7.	What tree diseases are currently affecting Welsh woodlands? .....	6
8.	Key Sources .....	8

# 1. What is the extent and character of woodland in Wales?

Woodland cover in Wales was 306,000 hectares (ha) in 2016. This represents 15% of Wales's land area, which is below the European average of 37% (PDF 2.67 MB). The long term trend for woodland area in Wales (1905 – 2016) has been a steady increase, with an increase of 6.2% from 1995-99 to 2016. There are a further 15 million trees in Wales that lie outside of woodlands, such as in hedgerows, roadsides, parks, gardens, orchards or wood pastures.

The State of Natural Resources Report, published by Natural Resource Wales (NRW), found that of the total woodland area, 52,005 ha are native woodland (non-ancient), 159,055 ha are non-native woodland (non-ancient), and 94,940 ha are ancient woodland (including areas currently planted with non-native conifers).

The Forestry Commission reported that based on 2012 data, 129,000 ha were stocked conifer (softwood) woodlands, and 137,000 ha were stocked broadleaf (hardwood) woodlands. The definition of stocked area differs from woodland area, as it excludes felled areas waiting to be restocked, and areas of integral open space contained within woodlands.

## 2. Who owns Welsh woodlands?

The Welsh Government Woodland Estate, managed by NRW, covers more than 126,000 ha, or 41% of all woodland in Wales. The three legacy bodies of NRW formerly managed these woodlands; 117,000 ha were formerly managed by Forestry Commission Wales (FCW) with other areas managed by the Countryside Council for Wales (CCW) or the Environment Agency Wales (EAW). More than two thirds of conifer woodland in Wales is owned by the Welsh Government, including some plantations on ancient woodland sites, but native woodland and ancient semi-natural woodlands are mostly on private land, with only 19,000 ha of ancient woodland sites within the Welsh Government Woodland Estate. The remaining 180,000 ha of woodland are privately owned.

## 3. How much new planting or restocking has taken place?

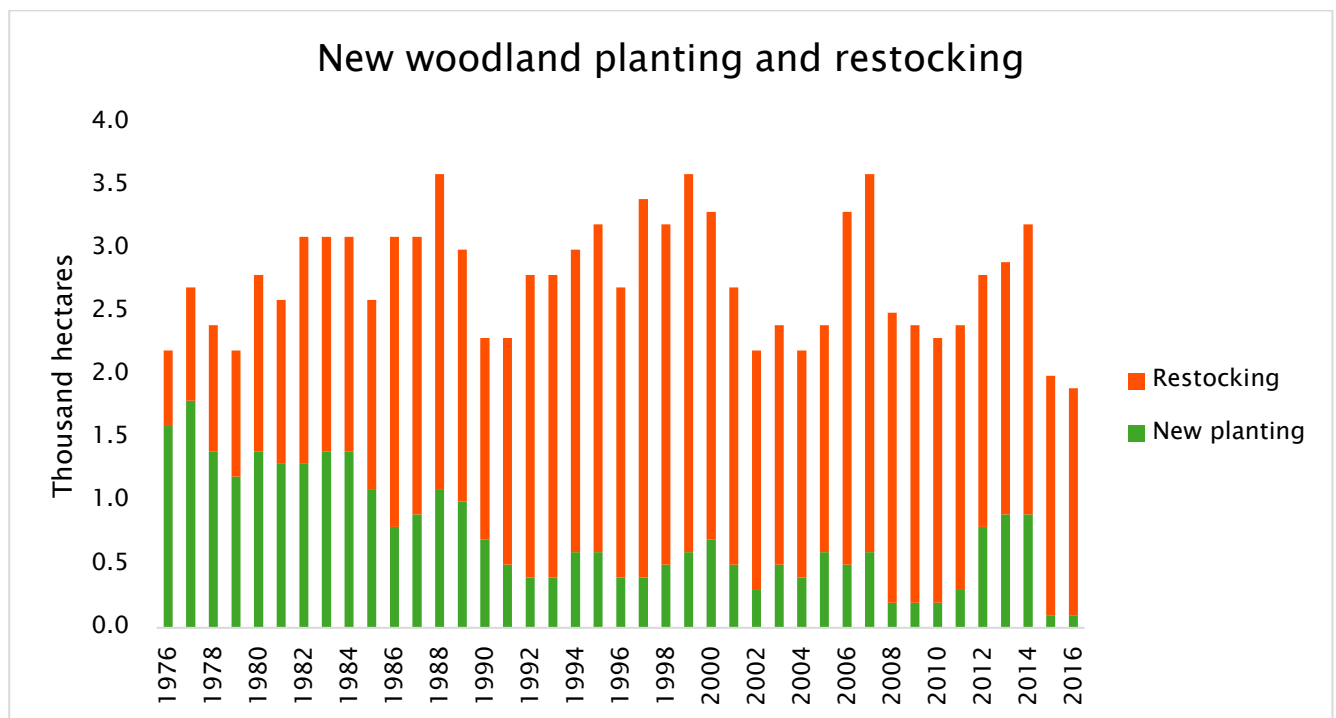
New planting and restocking rates from 1976 – 2016 are shown in Figure 1. According to Forestry Commission statistics in 2016, 100 ha were planted and 1800 ha restocked. Patterns of new planting and restocking have been changing over the last 40 years, with increasing planting rates of broadleaved species rather than conifer. Since 2001, the area of conifer has decreased by 18,000 ha, and the area of broadleaf has increased by 35,000 ha. From 2011 - 2016, restocking was mostly of conifers (67%) whereas new planting was mostly of broadleaves (86%).

According to Forestry Commission statistics, all planting has been in the private sector, but this category includes woodlands now managed by NRW, but formerly managed by CCW or EAW. In 2014, NRW gave evidence to the Fourth Assembly's Environment and Sustainability Committee's inquiry into the public forest estate showing that 1,400 ha of conifer planting had been completed on NRW-managed land since 2013. Tree planting is also carried out via the Welsh Government Plant! pledge, which plants a tree for every child born or adopted in Wales since 1 January 2008, at one of 13 sites across Wales.

The [Climate Change Strategy for Wales \(2010\)](#) included an ambition to increase woodland area by 100,000 ha before 2030, through a planting rate of 5,000 ha per year over 20 years, to help Wales meet its carbon emission reduction targets. The [Woodland for Wales Action Plan \(PDF 1 MB\)](#) reported that the new planting target of 5,000 ha per year had not been met in the previous five years, with only 3,203 ha of new planting from

2010 – 2015. It set a new target of 10,000 ha of planting by 2020, which will mostly be achieved through direct funding of woodland creation under [Glastir](#).

Figure 1. New woodland planting and restocking in Wales between 1976-2016. Data source: [Forestry Commission](#)



## 4. What is the economic contribution of the forestry sector?

The [Woodland for Wales Indicators 2015-16](#) state that ‘the most recent data indicates’ that Gross Value Added (GVA) for the forestry sector in Wales is £528.6 million. This includes forestry and logging, and the manufacture of wood, cork and paper products, but does not include other types of businesses supported by woodlands, such as recreation. The Indicators show that between 8,500 and 11,300 people worked in the forestry sector in Wales in 2014. These estimates show 1,400 full-time and 400 part-time employees in forestry and logging, 5,000 full-time and 400 part-time in manufacture of wood, wood products and cork, and 3,800 full-time and 100 part-time in manufacture of paper products. An additional 2,000 people were self-employed in the sector. There were more than 700 businesses in the Welsh forestry sector in 2015. Employment in the forestry sector and the number of business units has remained roughly stable in recent years.

Surveys of businesses in the Welsh forestry sector show that over the three years 2007-2010, just over a third of businesses saw a decrease in turnover, with just under a third reporting an increase. Four-fifths of businesses did not report any change in employment. The majority of enterprises were confident in the future of their business.

The economic value of publicly owned forest land in Wales, and its biological assets, was estimated by NRW (PDF 4.42 MB) to be £642 million in 2015.

# Woodland in Wales

## KEY FACTS

**15%**  
(306,000ha)  
of Wales is covered  
by woodland

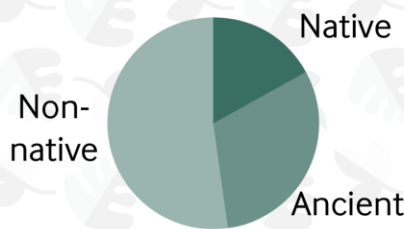


**59%** 180,000ha  
**Private Sector**

**41%** 126,000ha  
**Welsh Government Woodland Estate**

**49%**  
Conifer

**51%**  
Broadleaf



**78,000ha**  
located on farms

**1.419 million tonnes CO<sub>2</sub>e sequestered annually**

## ECONOMIC IMPACT

**£528.6m**  
Gross Value Added  
2014

**715** Businesses

Employing  
**10,200**  
full time

**1,400** in Forestry  
**5,000** in wood manufacture  
**3,800** in paper manufacture

## BIODIVERSITY



**Woodland dependent species**  
of principal importance

**30,000ha**  
of upland oak woodland



**5 habitats**  
of principal importance



**Mosses and Lichens**  
of global importance



National Assembly for Wales  
Research Service



## 5. How important is woodland to the environment?

Woodlands provide a range of ecosystem services. These are defined in the Welsh Government's **Woodlands for Wales Strategy** as: provisioning services (e.g. timber and woodfuel), cultural services (e.g. recreation and biodiversity), regulating services (e.g. protecting soil and water), and supporting services (capturing and storing carbon).

The **State of Natural Resources Report** assessed the resilience of habitats in Wales. Resilience is important for the sustainable management of natural resources, and providing ecosystem services and benefits in the long term. Resilience of Welsh woodlands was assessed as moderate for semi-natural broadleaf woodland, and moderate to high for planted woodlands (native and non-native mixes).

Approximately **5% of Welsh woodland** is designated for conservation. Monitoring of the condition of woodlands in Special Areas of Conservation (SACs) has shown that the **proportion of sites in favourable condition** declined from 26% in 2002-2006, to 21% in 2007–12. However, surveys conducted by the **Glastir Monitoring and Evaluation Programme** show increases in the mean number of Ancient Woodland Indicator Species from 2007 - 2015. The **interim list** of habitats and species of principal importance for biodiversity conservation in Wales under **Section 7 of the Environment (Wales) Act 2016** contains five types of woodland habitat, as well as wood pasture/parkland and traditional orchards.

The **Woodlands for Wales Strategy** highlights that woodlands can play crucial roles in soil and water management by: diffusing pollution, reducing nutrient runoff, improving water quality, reducing soil erosion, reducing flood risk, and maintaining water flows during dry weather. The **State of Natural Resources Report** maps where flood risk is reduced by natural features such as deep-rooted trees, and where there may be opportunities to reduce flood risk through mid-catchment tree planting (areas of deep soil on slopes 7 – 18°, omitting unsuitable areas) or the establishment of wet woodlands.

The **amount of carbon sequestered (taken in and stored) by Welsh woodlands** each year is estimated to be about 1,419 tonnes of carbon dioxide equivalent. Woodland soils, especially peaty soils, are very important for carbon storage, and **appropriate soil management is needed** to avoid carbon emissions from woodland soils.

## 6. How are Welsh woodlands currently managed?

Delivering ecosystem services depends on the condition and function of woodlands, which is linked to effective woodland management. Woodland management can be for a number of different aims, such as timber or biodiversity conservation, however woodlands not under management are not thought to be providing optimal benefits.

In 2014, at least **203,000 ha of woodland area in Wales** (66%) were managed to the **UK Forestry Standard**; an increase from 123,000 ha in 2001. However, the **Woodland for Wales Strategy** reported that more than half of privately owned woodlands are not likely to be under active management, as measured by uptake of woodland grant schemes.

Wales has **141,000 ha of woodland** certified under the **UK Woodland Assurance Standard** (46% of total area), 117,000 ha of which is managed by NRW (formerly FCW) and 24,000 ha is private sector forest (including woodland formerly managed by CCW and EAW, now under NRW). Certification gives

independent assurance to buyers that timber is sourced from responsibly managed forests and woodlands.

NRW is responsible for managing the Welsh Government's Woodland Estate, shares responsibility for implementing the Woodland for Wales Strategy and Action Plan, and regulates activities in Welsh woodlands, including through the issuing of felling licenses.

The Environment and Sustainability Committee's [public forest estate inquiry](#) (discussed previously) assessed NRW's performance since taking over FCW responsibilities. The inquiry highlighted some concerns from stakeholders about NRW's management of the Welsh Government Woodland Estate, particularly in relation to planting and restocking, timber supply, and disease control. In response to the Committee's recommendations, NRW and the Welsh Government committed to setting out the role and purpose of the Welsh Government Woodland Estate, and improving management of timber production and supply.

## 7. What tree diseases are currently affecting Welsh woodlands?

Welsh trees are under threat from a number of diseases, as outlined in the [Welsh Government's Tree Health Strategy](#). Currently, the most serious are ash dieback (caused by the fungus *Hymenoscyphus fraxineus*, formerly called *Chalara fraxinea*) and *Phytophthora ramorum* which primarily causes fatality in larch trees.

[Ash dieback disease was first found in the UK](#) in February 2012, on trees in an English nursery that had been imported from the Netherlands, although older trees with infections were found in 2015, meaning that the disease may have reached the UK through natural means. The first case in the wider environment in Wales was found in May 2013. As of 1 November 2016, 34.3% of 10km grid squares in Wales had a reported infection (53 squares in 2016). The [State of Natural Resources Report](#) reported that infections have been found at 100 individual sites. An [interactive map of ash dieback cases](#) across the UK is available.

The disease causes bark lesions, crown dieback and leaf loss, and is usually fatal, sometimes via secondary infections. It is most damaging to common ash (*Fraxinus excelsior*) but can also affect narrow-leaved ash (*Fraxinus angustifolia*). There were [19,000 ha of ash in Wales in 2016](#), representing approximately 12.2% of all broadleaved woodlands. A UK-wide [Plant Health Order](#) banning the movement of ash seeds, plants and trees into and within Great Britain has been in place since October 2012 to slow the spread and minimise the impact of ash dieback. The Welsh Government published a [Chalara Management Plan for Wales \(PDF 72 KB\)](#) in January 2015, which was due to be updated in January 2016.

[Phytophthora ramorum was present in all countries of the UK by 2010](#) and was particularly prevalent in south Wales and south-west England. The disease mostly affects larch (*Larix*) species, particularly Japanese larch (*Larix kaempferi*) where it forms lethal infections, but can also affect other species. *P. ramorum* was first found in Wales in May 2010 and as of November 2016 9,000 ha of larch trees have been infected in Wales.

The total **area of larch in Wales is 22,000 ha**, of which 12,000 ha are part of the Welsh Government Woodland Estate, representing 14.7% of all conifer woodland area. Over **2,000 ha of larch were felled by NRW (PDF 1.2 MB)** between 2010 and 2014, generating 450,000 cubic metres of timber, and an additional 244,000 cubic metres were predicted in 2014/15. Between 2011/12 and 2015/16, **5,692 ha of larch have been replanted (1.18 MB)** on the Welsh Government Woodland Estate.

NRW has the power to serve statutory Plant Health Notices that require woodland owners to fell infected trees. Wales has been divided into **two disease risk zones**: the **Core Disease Zone (PDF 1.73 MB)** and Disease Limitation Zone, where different management strategies are in place. A **map of *P. ramorum*** infection across the UK is available, and a map of confirmed infections in Wales can be found in the **State of Natural Resources Report**. For more information on *P. ramorum* see the Research Service's **Quick Guide (PDF 396.9 KB)**.

## 8. Key Sources

### Welsh Government

---

- [Glastir Woodland](#)
- [Welsh Government - Forestry](#)
- [Woodlands for Wales Action Plan 2015-2020](#)
- [Woodlands for Wales Indicators 2014-15](#)
- [Woodlands for Wales Strategy](#)

### Natural Resources Wales

---

- [Natural Resources Wales - Forestry](#)
- [The State of Natural Resources Report](#)
- [UK Forestry Standard](#)

### Forestry Commission

---

- [Forestry Commission – National Forest Inventory](#)
- [Forestry Commission - Statistics](#)