

## Irish tree champions

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The Irish Tree Society and the Tree Council of Ireland established the Tree Register of Ireland (TROI) in 1999. Its aim is to measure and record the “champion trees” of Ireland. Champion trees are defined as individual trees which are exceptional examples of their species because of their enormous size, great age, rarity or historical/cultural significance. To date over 14,000 champion trees have been recorded. The TROI database, which contains details of selected trees such as height, girth and location, is maintained at the National Botanic Gardens, Glasnevin. A Global Positioning System (GPS) is used to accurately record each tree’s location and to facilitate subsequent surveys. In Ireland tree measurements have been carried out since the beginning of the 20<sup>th</sup> century. The most important and one of the first was the monumental work of John Elwes and Augustine Henry, *The Trees of Great Britain and Ireland* which was published in seven volumes between 1906 and 1913. This impressive record was republished by the Society of Irish Foresters in 2012.

A later survey was conducted in the 1930s by H.M. Fitzpatrick which augmented Professor Henry’s earlier work. Augustine Henry was the Professor of Forestry when H.M. Fitzpatrick was a forestry student at UCD. Some years later Alan Mitchell, a dendrologist with the Forestry Commission in Britain, surveyed specimen trees in several of the large estates, public parks, and gardens throughout Ireland. Mitchell was well suited to this task as he was familiar with Ireland, having read forestry at TCD in the late 1940s. The Tree Register of Ireland aims to update the tree measurements taken by Mitchell and also to locate and record new “champion trees” which are growing in less conspicuous locations. The work of the Tree Register of Ireland is also more comprehensive as measurements have been continually added each year for the past 21 years. In 2005, the Tree Council of Ireland published *Champion Trees – A Selection of Ireland’s Greatest Trees* which gave details of the first *tranche* of measurements organised by county.

In 2008, the Tree Register of Ireland was expanded to include a database of heritage trees, which are trees of biological, cultural, ecological, or historic significance due to their age, size, or condition. In 2013, *Heritage Trees of Ireland* by Aubrey Fennell, with photography by Carsten Krieger and Kevin Hutchinson and a foreword by Thomas Pakenham was published by The Collins Press. The publication featured 300 heritage

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trees. Work on updating the database continues and Aubrey Fennell travels the country seeking out new champions and remeasuring some of the existing records.

Currently the tallest tree in Ireland is a Sitka spruce in Glendalough, Co. Wicklow (see Journal issue front cover, also Figure 1). It was planted in the late 1920s so it is much younger than the trees at Avondale or the private estates. This fine specimen is 61.6 m in height with a girth of 4.12 m.

However, the honour of being the tallest tree in Ireland is not a static accolade since trees are living, growing organisms. Thus, the tallest tree today may well be surpassed tomorrow by some new contender for the title. Since the 1960s, the Sitka spruce trees at Shelton Abbey, Co. Wicklow and Curraghmore Estate, Co. Waterford have vied for the top spot. Though they were planted in the 1830s, almost one hundred years before the current champion, these trees are now four or five metres behind the top ranked trees.

Currently the tallest tree in the UK is a Douglas fir in the Gwydyr Forest near Conwy in Wales, it measures 67.5 m. Planted by the Forestry Commission in 1921, it is growing in a stand that includes several Douglas fir trees over 66 m tall. Thus, while the location of the “tallest tree in the UK” may change it is most likely that the title will alternate among the trees in this stand rather than move elsewhere.

The tallest tree in Europe is a Karri tree (*Eucalyptus diversicolor* F.Muell.) in Vale de Canas in Portugal (roughly half way between Lisbon and Porto). There was much excitement when a monster Douglas fir, which was planted in 1906 in Turia Remete near Forest Roztoki in Ukraine, was reported at 75.2 m. However, a confirmation expedition recorded a height of 60.16 m by climbing and dropping a tape. The monumental trees register<sup>1</sup> also reports further potential record holders among the Caucasian firs (*Abies nordmanniana*) in the Russian Western Caucasus, however, these have not been verified. There are several potential champion *Eucalyptus* species in Galicia in Northern Spain which are no more than 100 years of age. The tallest native tree in Europe is a Norway spruce (*Picea abies*) in Slovenia which is 62.7 m tall. Another native European tree, a European silver fir (*Abies alba*) in Montenegro is 59.71 m in height.

Looking for a “World Champion” tree, our search veers towards the United States, where the prime contender is a specimen of coast redwood (*Sequoia sempervirens*) in California, named the Hyperion tree, which is over 115.7 m. To put this in context, the O’Connell Street spire is 120 m in height. The coast redwood is not comfortable growing in Ireland so it is unlikely there will be any Irish world champions. The largest volume tree in the world is also a redwood, the giant redwood (*Sequoiadendron giganteum*). A huge specimen in the Redwood National Park called General Sherman

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<sup>1</sup> Available to view at <https://www.monumentaltrees.com/en/>

is estimated to weigh c. 2,000 tonnes. The giant redwood thrives in Ireland and it provided our national height champion until recently, but has since been surpassed by Sitka spruce and Douglas fir specimens.

**Table 1:** *The tallest trees in Ireland.*

<b>Species</b>	<b>Height (m)</b>	<b>Location</b>	<b>Year measured</b>
Sitka spruce	61.6	Glendalough, Co. Wicklow	2020
Douglas fir	61.3	Avondale (beside railway)	2018
Douglas fir	60.8	Avondale, Co. Wicklow	2016
Douglas fir	60.2	Avondale, Co. Wicklow	2016
Douglas fir	60.1	Powerscourt, Co. Wicklow	2016
Douglas fir	59.6	Avondale, Co. Wicklow	2016
Sitka spruce	58.8	Glendalough, Co. Wicklow	2016
Sitka spruce	58.2	Baunreagh, Co. Laois	2016
Sitka spruce	58.0	Shelton Abbey, Co. Wicklow	2016
Douglas fir	58.0	Lismore, Co. Waterford	2018
Douglas fir	57.2	Tore waterfall, Co. Kerry	2016
Douglas fir	57.2	Lismore, Co. Waterford	2018
Sitka spruce	57.0	Avonmore, Co. Wicklow	2016
Sitka spruce	56.0	Curraghmore, Co. Waterford	2016
Sitka spruce	56.0	Glendine, Co. Laois	2016
Giant redwood	56.0	Lismore, Co. Waterford	2018

**Table 2:** *Other Irish height champions.*

<b>Species</b>	<b>Height (m)</b>	<b>Location</b>
Grand fir	52.2	Caledon, Co. Tyrone
Silver fir	51.2	Cranfield, Co. Wicklow
Western hemlock	50.4	Avondale, Co. Wicklow
Western red cedar	47.6	Powerscourt, Co. Wicklow
Noble fir	45.0	Cranfield, Co. Wicklow
Coastal redwood	45.0	Avondale, Co. Wicklow
Norway spruce	42.5	Owennahasad, Co. Waterford
Atlas cedar	41.0	Powerscourt, Co. Wicklow
European larch	41.0	Avondale, Co. Wicklow
Lawson cypress	39.3	Ballyteige, Co. Wicklow
Beech	38.4	Hilton Park, Co. Monaghan
Pedunculate oak	36.0	Tynan Abbey, Co. Armagh

It should be noted that the data included in the Tree Register of Ireland are not static and thus will change over time as new champions are located and some of the current champions are overtaken, are windblown or otherwise damaged.

I am indebted to Aubrey Fennell, who carries out measurements for the Tree Register, for providing the latest tree heights. I also want to acknowledge the assistance



**Figure 1:** *Sitka spruce at Lugduff, Glendalough. Gerry Patterson and Bob Dagg, two members of the Society of Irish Foresters who served in Glendalough, stand either side of the tallest tree in Ireland. Photograph by Donal Magner, October 2020.*

of David Alderman, Tree Register of Britain and Ireland (TROBI), who has been of tremendous assistance to TROI in measuring the larger trees using a laser hypsometer to ensure that measurements throughout these islands are harmonised.

It is interesting to note that planting since the 1920s in Glendalough, when highly productive stands of Sitka spruce, Douglas fir, Scots pine and other species were planted on a diverse range of sites and soils – some very exposed on unenclosed land – produced some remarkable forestry areas which today would not be approved for grant-aided afforestation. The Douglas fir and most of the Sitka at Lugduff were clearfelled in the 1980s, but thanks to the foresight of the then forester-in-charge Bob Dagg and region manager Michael O’Brien, this small stand was retained. This turned out to be an important decision, because one of the Sitka spruce grew on to pass out other champion Irish trees such as the Powerscourt Douglas fir and Sitka spruce in the Curraghmore Estate, both planted in the previous century and on soils far more nutrient-rich than at Lugduff. Bob Dagg recalls discussing the planting of this particular property in Lugduff with forest staff who said that it was “filled in” or “beaten up” for seven years after planting because of persistent damage by deer and goats. The trees are surprisingly slender probably due to their initial close spacing of  $5 \times 5$  ft ( $1.5 \times 1.5$  m) or a stocking of 4,400 trees  $\text{ha}^{-1}$  compared with current rates of 2,500  $\text{ha}^{-1}$  for conifers at  $2 \times 2$  m spacing.

Note on Lugduff Sitka by Donal Magner, transferred to Glendalough in 1971.