SUTTON COLDFIELD LOCAL HISTORY RESEARCH GROUP

American Red Oaks

The introduction of ornamental trees to Sutton Park at the turn of the 19th century

Autumn display by the red oak at Holly Knoll, Sutton Park.
(Photograph courtesy of Richard Billingham, taken on 15/10/2020)

Roy Billingham

2022

Autumn leaves in 2020

The year 2020 will principally be remembered as the year that witnessed the start of the Covid-19 coronavirus pandemic which continues to affect all of our lives. However, 2020 in the U.K. will also be remembered for more pleasant events, particularly relating to our fauna and flora. There was a proliferation of autumn colour in our woodlands.

In January 2021, data from European Union satellites showed that 2020 tied with 2016 as the world's hottest year and was Europe's warmest on record. Winter 2019-20 and autumn 2020 were also the warmest recorded in Europe.

The U.K. weather conditions in the month of October 2020 provided us with spectacular and prolonged autumn displays of colour in the tree canopies throughout the landscape and this included the ornamental displays of the red oaks in Sutton Park. This display was thanks to good sunny spells during the spring and the month of September together with some nurturing dampness in the summer months.

There are two species of North American red oaks growing in Sutton Park, one being the fine example of a red oak *(Quercus rubra)* adjacent to the security gate and alongside the car park at Holly Knoll, while the other example is a pin oak *(Quercus palustris)* growing alongside the roadway that leads from the bottom of Wyndley Glade to the water splash at Wyndley Gate.

I have also found one other example of a young red oak alongside a woodland path on the northern side of Holly Hurst; it is among other young trees in a plantation created in order to rejuvenate the tree stock that I think, from memory, was created in the early 1970s. Could this tree have been planted intentionally by Park rangers, a jay or, less likely, a squirrel. When I discovered this young specimen some years ago, it was conspicuous by its enormous leaves but was in a cramped position in the plantation.

Initially, I could find no reference to the origins of the pin oak near Wyndley but it must have been planted at about the same time as the red oak, a time in the late 19th century when there was a general mood among owners of parks and woodlands for planting exotic and decorative trees such as red oaks, Turkey oak, Spanish chestnut, hornbeam, wych hazel and other species.

Over Sutton Park's long history, the dominant trees within it have been the two species of English oak *(Quercus robur)* and (*Quercus petraea)*; rowan *(Sorbus aucuparia)*; and holly *(Ilex aquifolium)*, the latter having been grown to provide winter feed for the roe deer that populated the Sutton deer park until Bishop Vesey got rid of them after the granting of the charter by Henry VIII in 1528.

When and why did these red oaks come to be planted in Sutton Park as well as other species of ornamental trees? To answer this question, it was necessary to search the Minutes of the Park, Estates and Buildings Committee of Sutton Coldfield's Borough Council, which was incorporated in November 1886.

A change in the management of Sutton Park in 1889

In the early years of the new Borough, the members of the Park, Estates and Buildings Committee had for some time felt that the management of the Park was not satisfactory in all

respects since it was impossible for the new Borough Surveyor, Mr. C.F. Marston, with all his other official duties, to allocate sufficient attention to the Park. They concluded that it was desirable that a competent person should be appointed under the Borough Surveyor's control to take sole responsibility for the management of the Park, and as the care of the woods and the planting of trees were of great importance to the Corporation, they recommended that a qualified person, who would be in overall control of the Park and its staff, be appointed to the post of Forester at a salary of £100 a year. The post was advertised in October 1899 and out of 114 applicants for the post three were short-listed for interview by the Committee. In November 1889, the Committee recommended to the Council that Mr. Charles Morwood of Canwell Estate be appointed Forester, answerable to the Borough Surveyor.

Charles Morwood commenced his duties in November 1889 and by the end of January 1890 he had persuaded the Committee to prepare and fence a 1½ acre plot of land at the north-western end of Upper Nuthurst, adjacent to Stoney Glade and overlooking Lodge Oak Bank, with the purpose of establishing a tree nursery so that the Park would become self-sufficient in its future requirements for healthy stock to be used for new and replacement tree planting. For good measure he also persuaded them to expend £40 in purchasing sufficient trees for stocking the new nursery and filling up the existing plantations where required, as well as planting trees along the road from Meadow Platt to Blackroot Pool.

Very quickly, Charles Morwood put in motion an ambitious programme for the new tree nursery and set about managing the welfare of the Park's woodlands. In his annual report for 1893-4, he mentioned that since the commencement of 1890 about 380 oaks, which were either dead or diseased, had been cut down together with lots more aged trees with the intention of replacing them with young trees which would then be fenced round to give them protection from foraging animals.

In searches through the Council Minutes, I discovered a Park & Estates Committee Minute (No. 1188) from October 30, 1895, which stated that the thanks of the Committee be formally expressed to Mr. J. Thompson of the Albion Lamp Co.[1] of Aston Brook for his gift of red oak acorns for planting in the Park. The term "red oak acorns" might have been used in its generic sense which probably included both the red oak and the pin oak. The Minutes failed to state the number of acorns donated or their provenance. Also, there was no account of how many of the donated acorns were successfully germinated and planted-on into the Park's nursery or whether one of the donated acorns planted by the Forester was responsible for the specimen near Holly Knoll, although I have assumed that that was the case.

Unfortunately, in April, 1896 Mr. Morwood, the Park Forester, collapsed and died suddenly while walking in Park Road. At the Park & Estates Committee meeting of May 6, 1896, the Chairman in his announcement of this event said, *"Mr. Charles Morwood has since his*

[1]**Rippingille's Albion Lamp Co.** were the original inventors, patentees and manufacturers of Rippingille's world renowned patent oil cooking and warming stoves, lamps, etc. They were based at the Aston Brook Lamp Works, Aston Road North, south of Aston Cross in Birmingham. In Kelly's Directory of Warwickshire, 1884, Alexander Edward Rippingille is listed as living in Tudor Road, Sutton Coldfield. Tudor Road is between Upper Clifton Road and Railway Road.

appointment in November 1889 devoted himself most energetically to the preservation and improvement of the Park, has managed the Men under his control with ability and discretion, and has throughout given the most unqualified satisfaction to your committee." The committee recommended that a successor to Mr. Morwood be advertised for at a salary of £80 a year and a cottage[2], his duties to be similar to those performed by Mr. Morwood.

By July 1889 the Committee had received 108 applications for the appointment of a replacement Forester and had selected three applicants for interview at their previous meeting. Their recommendation to the Borough Council for appointment as Park Forester on the terms of the advertisement was Mr. Henry Harland, subject to his entering a similar agreement to that signed by Mr. Morwood. Mr. Harland's employment history included being in the employ of General Dyott of Freeford Hall, near Lichfield for the past year. From 1879 to 1883 he had been in the employ of the Earl of Roseberry at Dalmeney Park, afterwards of the Queen at Balmoral for about two years, and of Lady Chichester at Arlington Court from 1886 to 1894. Mr. Harland's testimonials were exceedingly good, having been employed during the whole of his career in forestry and having had control of considerable numbers of men, such that the Committee considered that he was well qualified for the post.

Oak trees worldwide

There are about five hundred species of oaks worldwide and they belong to the family *Fagaceae*. Their buds cluster at shoot-tips and anyone of them can dominate in the next growing season to create the twisting, wide limbs of many species. They all carry their acorns in egg cup-shaped receptacles.

The red oak tree near Holly Knoll in Sutton Park (O.S.G.R. SP111 966)

I first became aware of this tree in the autumn of 2011. It was in September of that year when I was approaching the car park at Holly Knoll and noticed among the tree canopies an area of scarlet amongst the foliage of the trees standing adjacent to the security gate on the road to Blackroot Mill. At the same time, my attention was drawn to the height of the tree and the length of its sturdy branches which on one side extended across the road towards the boundary of the nature reserve adjacent to Park House. Although I had walked past the tree on many occasions over the years when visiting the Park, I had paid it no special attention until this moment, the reason possibly being that the tree's leaves only turn red when the autumn temperatures and humidity are favourable.

On closer inspection I noticed that its leaves were quite large, being 24cm (c.9ins) long in some cases, and its silver-grey bole was erect with a smooth bark. I collected some fallen leaves from the ground beneath its lower branches to aid identification and was able later to identify the tree from field guides as an American red oak (*Quercus rubra*).

[2] The cottage would have been the Park Lodge that once stood in Park Road adjacent to the Town Gate and opposite the entrance to Tudor Hill. This cottage had been extended in 1890 to include two extra bedrooms over a ground floor area which was to be an office for the Forester.

In order to establish the tree's approximate age, I used a somewhat crude technique devised by Mitchell (1974), according to the premise that 1 inch (25mm) of girth at chest height 5ft (c.1.2m) above the ground represents approximately one year of growth for a tree standing in open ground while only 0.5 inch (c.13mm) of such growth would be produced by a tree in a dense woodland setting. I measured the red oak trunk as per the above procedure in December 2020 and found that the girth was 12ft-2ins or 146ins (310cm). By this technique it could be claimed that the tree is in the order of 140 years old which, bearing in mind that the acorns were presented in 1895 – 125 years previous – is a reasonable approximation of the trees age. However, Mitchell's technique has been found unsatisfactory, and while it seems closest to reflecting growth patterns in middle-aged oak maidens it does not reflect the slowing down of growth in veteran trees which are producing very narrow annular rings. In general, different types of trees have different rates of growth.[3]

There was an unexpected happy occurrence in the summer of 2014 when I noticed that the Holly Knoll red oak had produced acorns**.** Later, I checked the pin oak at Wyndley and found to my delight that this tree had also produced acorns. Disappointingly, the first-year acorns on both trees failed to survive the following winter. I later learnt that red oaks in the UK only produce acorns in favourable growing conditions.

A profile of the red oak *Quercus rubra*

Red oak is native to eastern North America from Nova Scotia southwards to Georgia where it is a fast-growing tree and is often planted as an ornamental tree for its flaming autumn colour. The first introductions to Britain were confused by wrong identification in the 1720s. It was extensively used as a forest tree in Europe in the nineteenth century, and in Britain after 1920 when the Forestry Commission planted them on the edge of woodland rides to add diversity and colour to commercial woodlands. It requires full light and lots of space in order to flourish.

It is a deciduous broadleaf tree with a clear trunk to about 8 to 10 metres topped by a wide, rounded canopy with straight branches. The tree grows best on deep, well-drained soil, where it grows rapidly into a big tree. It will not tolerate a lot of shade, preferring open situations in which it can spread itself without competition.

It is a fast-growing tree and is often planted as an ornamental tree for its flaming autumn colour. Although it is not as valuable to wildlife as our native oaks , it is popular with nesting birds and pollinators. It grows as large in Britain as in its native habitat like several other 'red oaks', but unlike the 'white oaks' rarely naturalizes. It is a good timber tree for quality indoor furniture and structural elements of houses. To aid you in the identification of red oak trees, here are a few pointers:

Shape: The tree very soon grows to a broad shape on very strong, straight branches and can reach a height of about 35m (115ft).

Bark: The bark is silver-grey and smooth at first turning dark brown and fissuring. The British population of red oaks is now diverse and some old trees retain smooth bark

[3] Muir, R., *"Ancient Trees-Living Landscapes"*, (2005), Stroud, Tempus Publishing Limited, p.41.

with hemispherical warts while others develop shallow or even scaly grey ridges between orange fissures.

Leaves: These are big, alternate and broad with both sides matt green. The stems are short and stout. They are often 20cm long and the variable shallow lobes , each with two or more whiskered teeth , soon become hairless except for minute buff tufts. They turn a dark red in autumn.

Shoots: These are slender, grey, and quickly hairless.

Buds: These are chestnut in colour and the scales have slightly hairy tips.

Flowers: The slender male catkins hang in clusters and the tiny female flowers can be found singly or in clusters.

Fruit: The acorns, like those of other "black oaks", are small, typically 2cm, and they take two years to ripen. They are held in shallow saucer like cups and ripen in their second year. It takes twenty years before the red oak flowers and forty years before they produce a good crop of acorns.

The following photographs of the red oak in Sutton Park illustrate the tree's characteristics listed above.

Photo 1 – the winter skeletal form of the American red oak looking south-eastwards from Park House nature reserve towards Holly Knoll.

(Author's photograph taken on 10/01/2016)

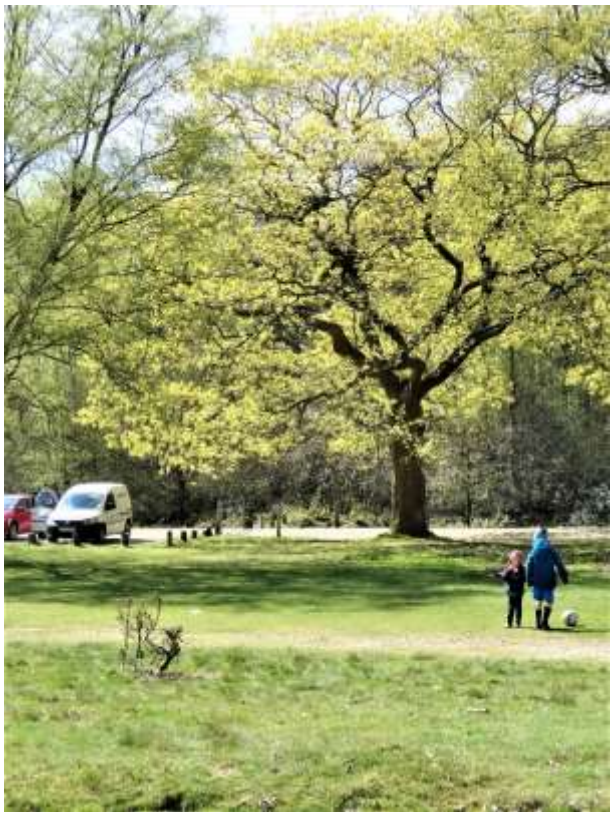

Photo 2 – New foliage appears on the American red oak in April, viewed looking in a southerly direction towards Park House nature reserve.

(Author's photograph taken on 25/04/2015)

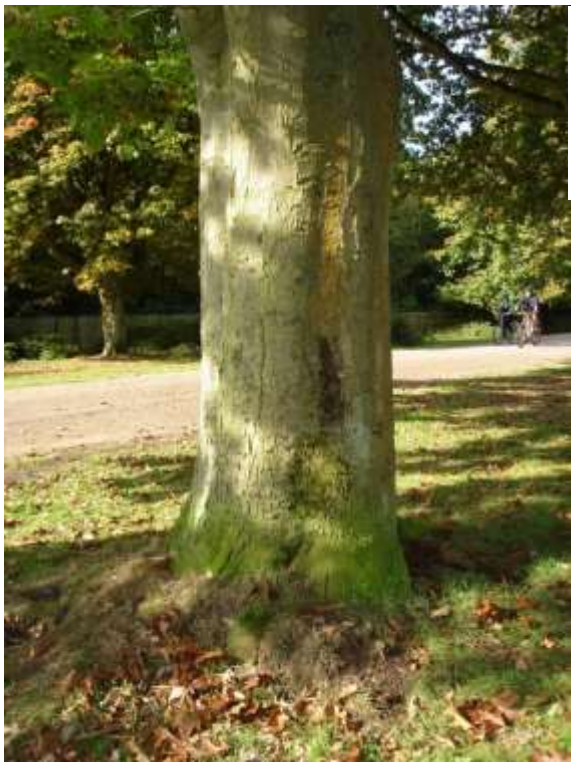

Photo 3 (left) – **The straight trunk of the American red oak looking south-eastwards towards trees bordering Holly Knoll. Note the silver-grey, smooth bark and the brown scaly fissure.**

(Author's photograph taken on 27/09/2011)

Photo 4 (below) – **a red autumnal leaf from the American red oak in Sutton Park. This specimen measures c.23cm (9 inches) in length. Note the variable shallow lobes.**

(Author's photograph taken on 18/10/2020)

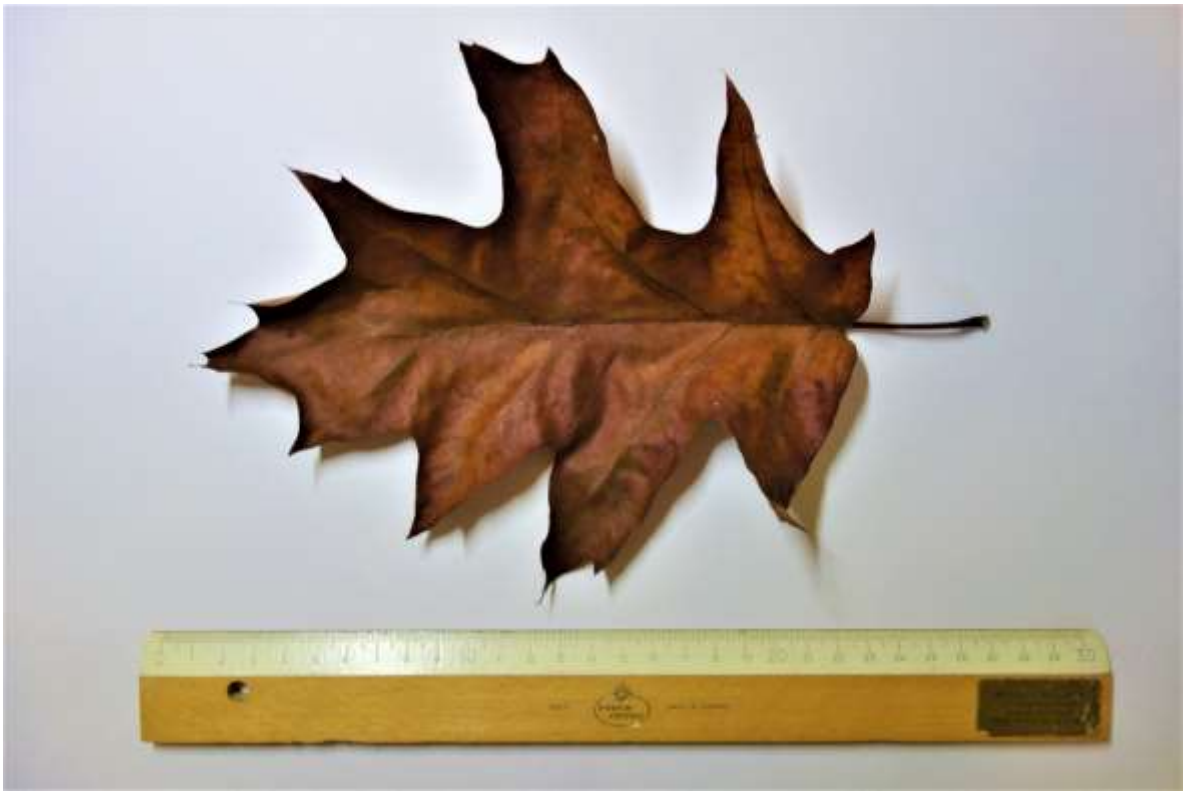

Photo 5 – First-year acorns on the red oak at Holly Knoll. Red oak acorns take two seasons to mature.
(Author's photograph taken on 05/07/2014)

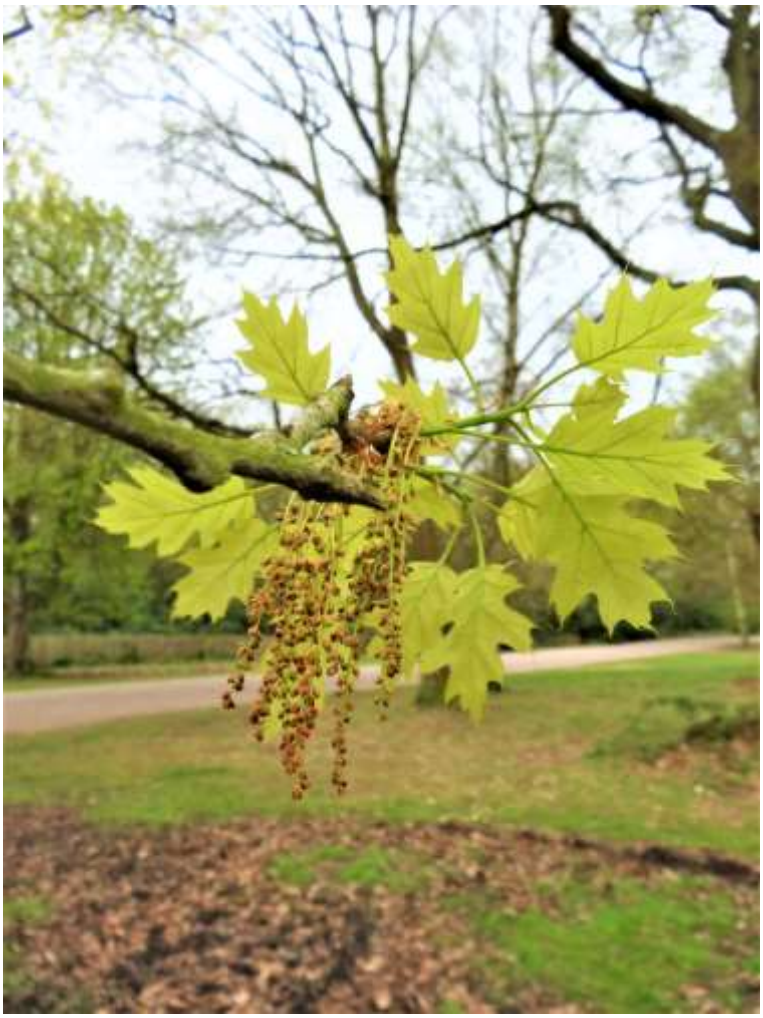

Photo 6 – Spring leaves and catkins on the red oak at Holly Knoll. This shows clearly the shape of the red oak's leaves.
(Author's photograph taken on 25/04/2015)

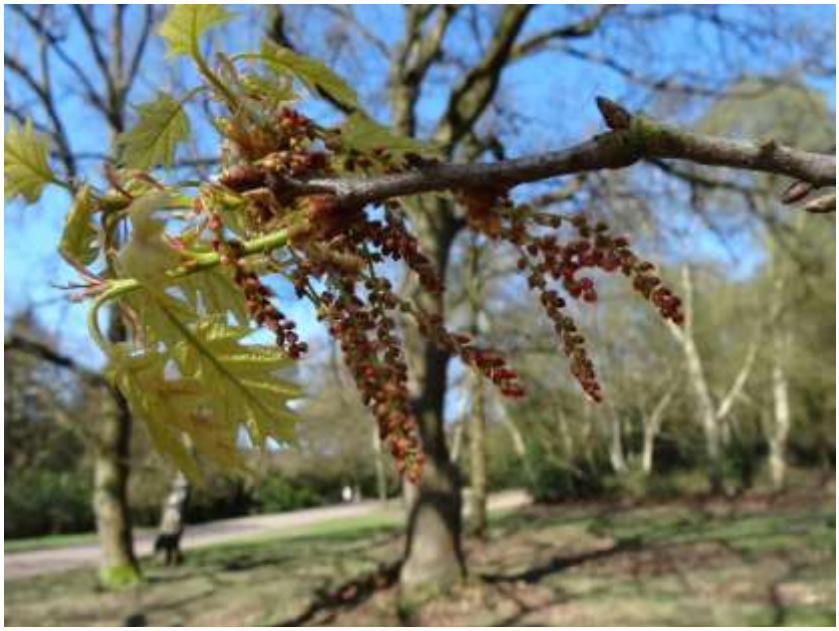

Photo 7 – This photograph, taken on a windy day in April 2015, shows the chestnut-coloured buds and the shoots of new growth along with the clusters of catkins. (Author's photograph taken on 18/04/2015)

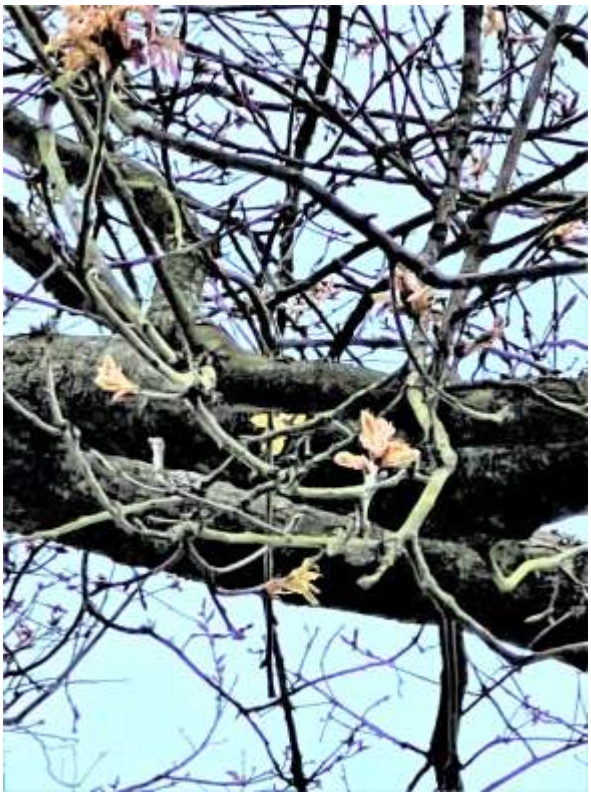

Photo 8 – A spring display of blossom on the red oak at Holly Knoll car park in April 2022. The profuse blossom was high up in the canopy and difficult to photograph in any detail. See photo 16 for reference.

(Photograph courtesy of Richard Billingham, taken on 05/04/2022).

During the final stage of putting this research together I decided to pay the red oaks a visit to photograph their spring flowers. Initially I could see no flowers on the red oak at Holly Knoll but on further observation I was amazed to see a plethora of blossom across the whole of the top of the canopy but no blossom lower down the tree. Alas, I discovered on my visit to the pin oak at Wyndley on the same day that I could see no evidence of blossom on that tree although the pin oak's flowers are usually somewhat insignificant.

The pin oak tree near Wyndley in Sutton Park (O.S.G.R. SP110 960)

A few weeks after I discovered the red oak at Holly Knoll in 2011, I was standing alongside the road from the Visitor Centre to Wyndley Glade looking down the valley towards the road that leads from Wyndley Gate to Wyndley Glade when my attention was drawn to an area of blood-red colour on the ground surrounding one of the trees. As I gradually approached this tree, I became aware that the red colour on the ground surrounding it was caused by fallen autumn leaves. I had a good choice of large leaves to pick up from the ground to enable me to identify the tree from my tree guide. It was a pin oak, another example of a North American red oak.

The Americans have their own classification of native oaks such that "red oaks" and "willow oaks", collectively called "black oaks", lack the rugged, crooked appearance of many oak species; their timber is soft and they are relatively short-lived. The New World 'white oaks', that are related to the English oaks, seldom thrive in the UK.

A profile of the American pin oak *Quercus palustris*

Quercus palustris is a medium sized, deciduous tree which in the UK tends to be planted in parks in isolation for its ornamental autumn colours. Native to North America where it is ideal for parklands, large gardens or avenues, it was introduced to Great Britain in the early 1800s.

In Britain the tree is grown as an ornamental species on a wide variety of soils. Although smaller in growth than the red oak *Quercus rubra*, it probably does best on soils containing a good deal of moisture. It grows frequently in warm areas of the U.K., especially as a young tree, but it is almost absent from Scotland.

It is suggested that the pin oak, which is a member of the American red oak family, gets its name from the fact that in wintertime the short slender twigs that stand out from the branches of this tree have a pin-like appearance from a distance. It is also known as water oak and swamp oak, both names describe the situations in which it grows in its native North America.

The pin oak has brilliant red autumn colouring that starts at the tips of the shoots before spreading to the rest of the leaves. Like the other red oaks, it grows fast but suffers from yellowing of the leaves on chalky soil.

The heavy timber of the pin oak, with its red-brown heartwood, is similar to that of the other red oaks and of poorer quality than that of the white oaks, being less resistant to decay. In its native home it has been used for making charcoal and its bark used for tanning leather. The acorn is bitter with tannin, not sweet like those of the white oaks and is therefore less attractive to foraging animals.

To aid you in the identification of the pin oak, here are a few pointers:

Height: approximately 20 to 28 metres.

Shape: Usually a straight trunk with a broad conic crown, then lower down becoming densely domed with many fine dead branches retained in the interior and fine live ones forming a distinct descending skirt from a height of about 5m.

Bark: Smooth, grey-brown bark which is often coated with lichen. It is smooth in younger trees developing shallow furrows with maturity.

Leaves: They are narrow and alternate and are deeply lobed and have long points and deep, narrow indentations and are shiny on both sides, being bright green in spring and brilliant red and orange in the autumn. They are smaller, narrower, and more deeply lobed than those of the red oak.

Shoots: These are slender and soon become hairless.

Buds: These are small, about 3mm in length.

Flowers: The pin oak produces male catkins and insignificant female flowers in spring.

Fruit: The acorns are green when immature and, like those of the red oak, take two years to develop. They are very small, squat, and fat and sit in a thin-shelled, shallow cup though not prolific.

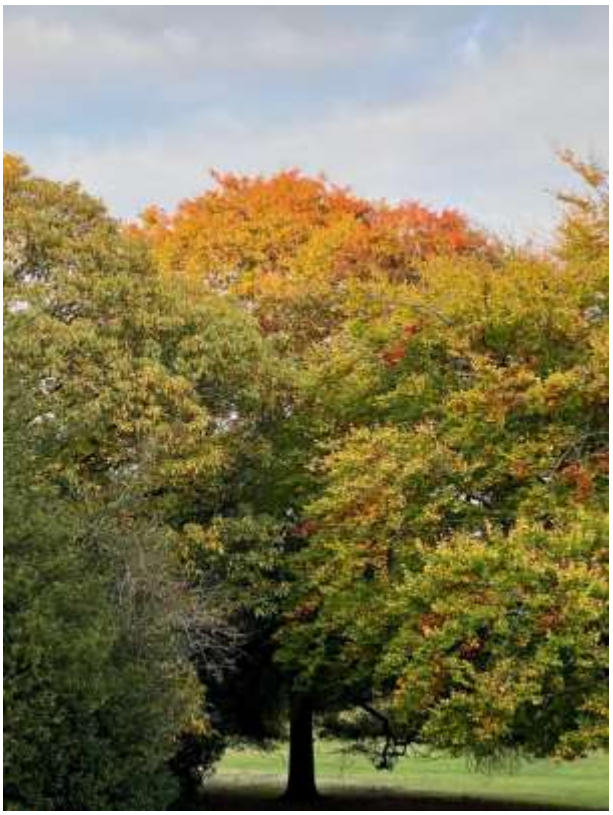

Photo 9 – American pin oak *(Quercus palustris)* **near Wyndley Glade in Sutton Park displaying its coloured foliage in mid-October, 2020.**

(Photograph by courtesy of Richard Billingham)

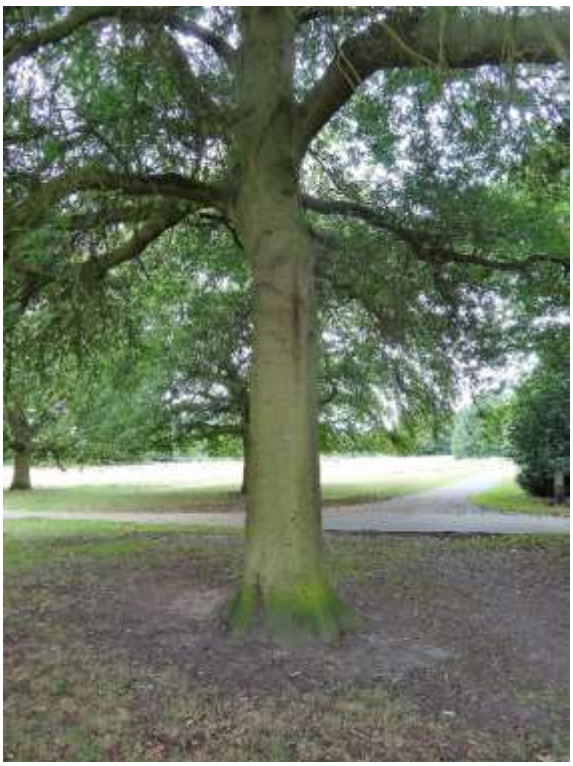

Photo 10 – The trunk of the pin oak at Wyndley.
(Author's photograph taken on 16/08/2014)

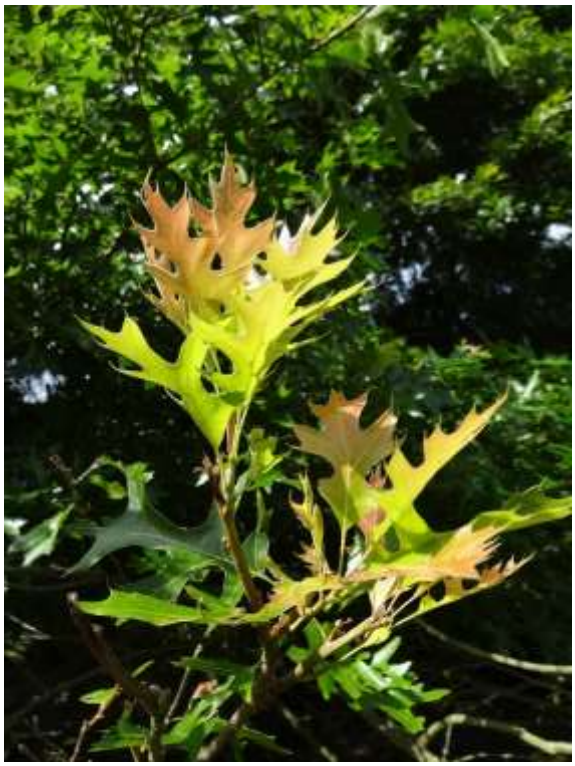

Photo 11 – Young leaves of the pin oak at Wyndley.
(Author's photograph taken on 09/08/2014)

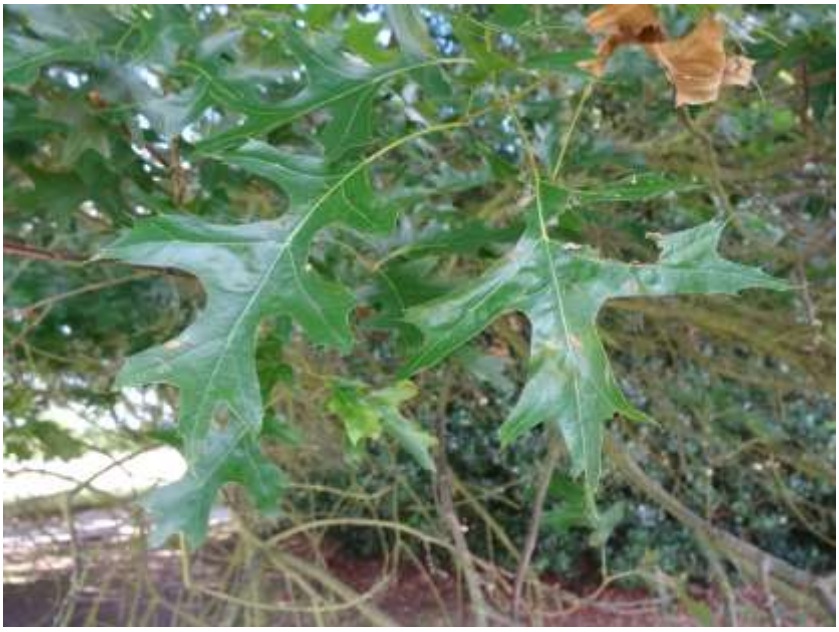

Photo 12 – The shiny bright green leaves of the pin oak at Wyndley showing their deep narrow lobes.
(Author's photograph taken on 09/08/2014)

Photo 13 – A cluster of immature acorns on the pin oak at Wyndley.
(Author's photograph taken on 16/08/2014)

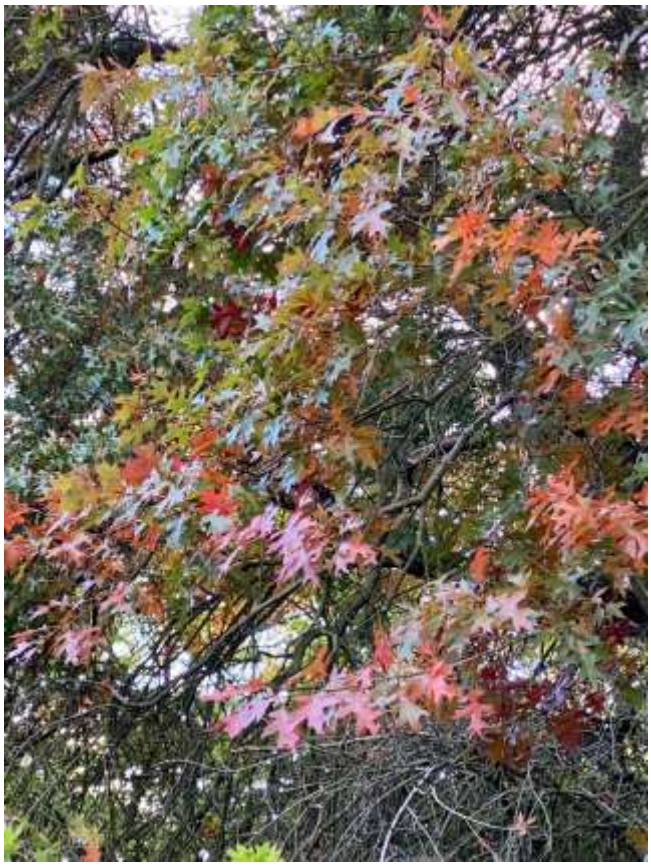

Photo 14 – The pin oak at Wyndley displaying its dark red leaves in October 2020.
(Photograph by courtesy of Richard Billingham)

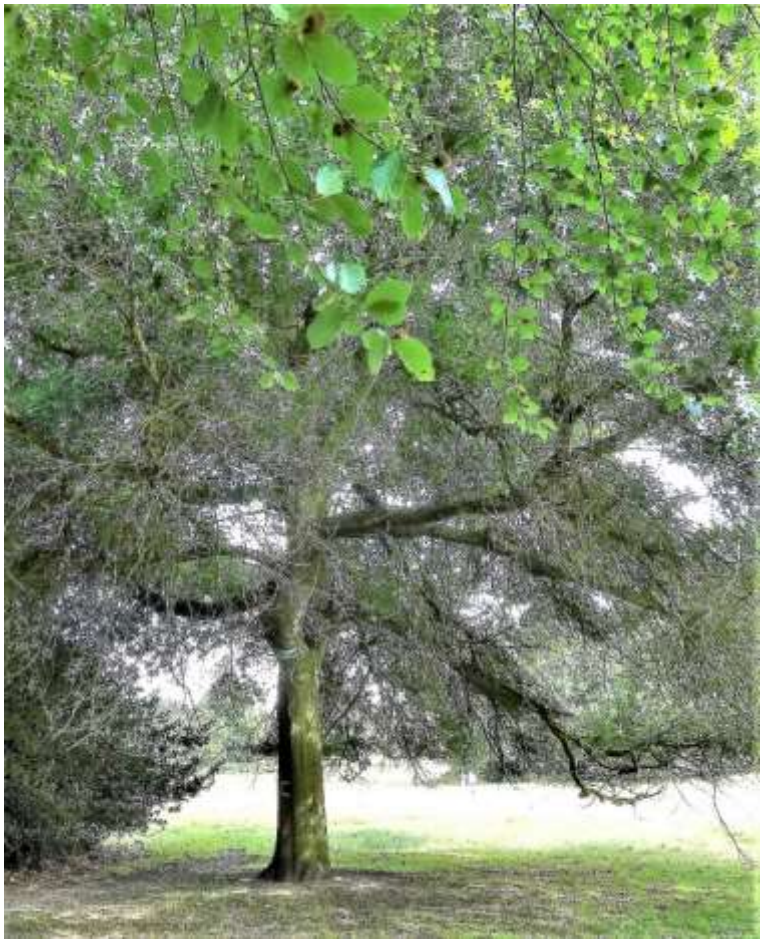

Photo 15 – Note the descending skirt formed by the lower branches.

Summary

Charles Morwood, the Forester, was very keen on his trees and, soon after his appointment as Forester in 1889, established a tree nursery overlooking Lodge Oak Bank in the Park. He introduced a diversity of trees that were new species to the Park. The red oaks were probably not part of his original diversity plan but the opportunism of a gift of red oak acorns in October 1895 could not be disregarded and coincided with the popular idea of planting ornamental trees in parkland locations. A likely benefit was that ornamental trees would attract more visitors so the choice of a suitable planting site was important. It is interesting that the red oaks highlighted in this research were planted adjacent to a roadway, one near Holly Knoll and the other alongside the roadway from Wyndley Gate to Hollyhurst Cottage tea rooms on the eastern edge of Hollyhurst, both very popular with visitors to the Park in Victorian times.

These two specimens of American red oaks represent a piece of history relating to the woodland management of the Park in the late 19th century.

Henry Harland was, like his predecessor, keen on his trees and a successful Forester and carried on the good work of maintaining and developing the woodlands of Sutton Park.

Roy Billingham, April 2022.

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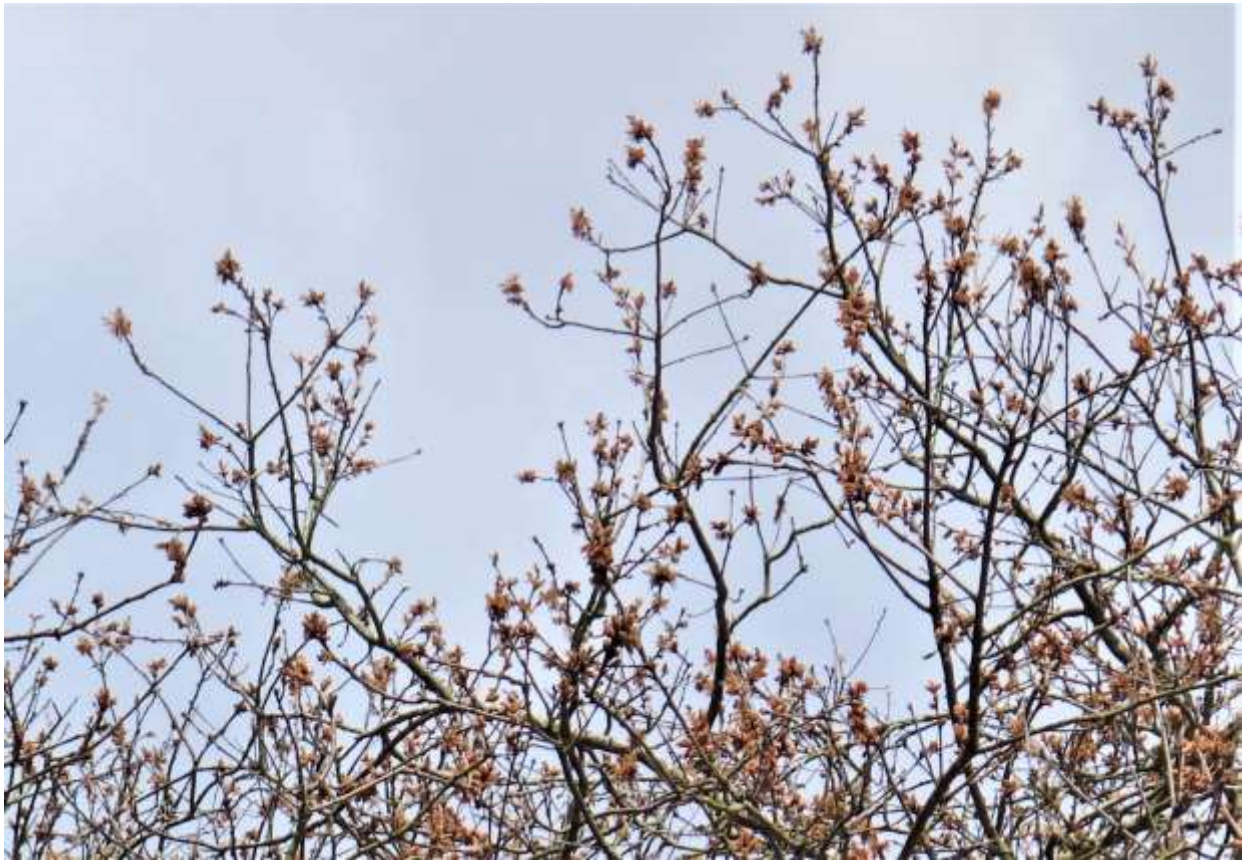

Photo 16 – Springtime blossom in the canopy of the red oak at Holly Knoll on 8th April, 2022.
(Author's photograph taken on 08/04/2022)