

Brighton's Elm Tree Collection

Brighton's unique Elm trees

Brighton & Hove has a unique National Collection of Elm trees.

Because of its natural environment, shielded by the South Downs and the sea, and because of the effort made to preserve them, Brighton & Hove is home to more than 17,000 Elms – one of the few species of larger trees that can thrive on the area's chalky, alkaline soil.

This is the largest remaining population in the UK following the ravages of 'Dutch Elm Disease'. Brighton's Elms include some of the oldest, rarest and most spectacular varieties in the world.

This illustrated visitors' guide has been produced by the Friends of the Pavilion Gardens Cafe (in Royal Pavilion Garden) where you can see some of the most beautiful and oldest Elms, the University of Brighton, UNESCO's World Biosphere Region, VisitBrighton, and is sponsored by developer First Base.

Now, please pay your respects to some of Britain's oldest, most beautiful, natural inhabitants!

What is Dutch Elm Disease?

Well, it isn't 'Dutch' for a start. It's Japanese. At least the current aggressive strain of the disease is. A less aggressive form of the disease appeared in Europe in the early 1900s, but then the more aggressive version appeared in Japan at the end of World War 2 and is possibly a mutation of the former, non-aggressive strain.

By the early 1960s it was well-established in North America and parts of Asia, and then it arrived in the UK. Over the following decades it is estimated that 27 million UK trees were affected and had to be cut down.

The disease, which is caused by a member of the sac fungi, is primarily carried on the Elm Bark Beetle (*Scolytus*) which bores into the trunk of the Elm to lay its eggs. Its larvae hatch and feed on the tree's living tissue under the bark, eating out 'galleries' which can be seen on the inner layer of bark. The adult beetles also feed on the crotches of trees and spread the disease that way, and it can also be spread from tree to tree via the roots. The disease is not specific to the Dutch Elm hybrid species, but it was identified in 1921 by Dutch phytopathologists.

When more than 50% of a tree is consumed by the disease it is beyond saving, as the tree is literally committing suicide trying to prevent it by plugging its own tissue, which prevents water and nutrients travelling up the trunk.

First signs of Dutch Elm Disease are browning and yellowing of leaves in the summer. This leads to dieback and drying out of branchlets. There is also a noticeable blackish-brown staining on the fresh wood beneath the bark.

Dutch Elm Disease has so far claimed 27 million Elms in the British Isles alone.

Natural benefits and cultural links

Brighton's National Collection supports local wildlife and is enjoyed by local people and visitors alike. In the process of photosynthesis, trees improve oxygen levels in the city and it has been proved that Brighton has a high level of animal diversity encouraged by its Elm population. Brighton's Elms are an incredibly beautiful visual characteristic of the town and its environments.

In 1845, 1000 Elm trees were planted at The Level, as a gift from the Third Earl of Chichester, John Pelham of Stanmer Park.

The Pelhams planted numerous Elms on their estate around Stanmer and Falmer. The drive leading to the village at Stanmer was painted by John Martin, a Pre-Raphaelite-influenced painter. The estate was formerly laid out with many clumps of Elm and woodlands that contained both beech and Elm.

The Royal Pavilion Gardens was not originally planted out with Elms, but many old postcards dating from the late 1800s to early 1900s show a lush canopy of Elms along a drive that led to the Pavilion. The last of these fell in the 1987 storm.

Protecting Brighton's Elm trees

Brighton & Hove like a few other local authorities maintain a control program to ensure Dutch Elm Disease doesn't get out of hand in the city. This has been in place since 1970 and was an idea put together mainly by the public. Any infected timber is quickly removed and movement of timber in that area is prohibited.

Elm is important locally as many trees do not grow in this harsh environment. The salty sea winds and the heavily alkaline chalk soils are not favourable for the growth of many trees. The Elm is one of the few exceptions to this natural rule.

The control of Dutch Elm Disease is also a benefit financially to the city. If Dutch Elm Disease were to affect the whole population, and control measures were not implemented, it would cost the city millions to remove dead trees and in replacement costs. Thankfully Brighton's Control Program keeps costs much lower and some of the finest mature Elm left in the British Isles enable Brighton's environment to be beautiful and thrive.

Brighton's Elm collection was awarded National Status in 1998.

Why Brighton's Elms are important

Unesco's decision in 2016 to designate the Brighton & Hove area as a World Biosphere site is partly a reflection of the importance of Brighton's National Collection of Elms.

There are as many as 30 National Registered Champion Elms in the city recorded for the Tree Register.

15 individual trees are the very last examples of their types anywhere in the world.

The population is a living museum of a tree which in many areas of the world has been reduced to a small shrub by Dutch Elm Disease. The population has been on the increase since the collection was founded and despite some heavy losses during the storm of October 1987, many areas still have a lush green canopy.

In 1997 when the City of Brighton & Hove had only just been formed it was decided that the Elms in this city should be given more status. Arboriculturists got together with help from Peter Bourne (a local Elm enthusiast) to form the National Collection of Elms through an application to the National Council for the Conservation of Plants and Gardens (now known as Plant Heritage).

The application was successful and the large collection of rare Elms was secured for future generations.

The history of Brighton's Elms

There weren't many large trees in the Brighton area historically because of the soil conditions and its salty sea winds. There was, however, one very old coppice of English Elm in Boyces Street in the Lanes, which had been part of a historic farm.

One remaining English Elm, however, outlived the farm by 500 years – until it was lost to Dutch Elm Disease. Other historical Elms include the Brace Tree and the Preston Twins which have been here for hundreds of years. Locally Elm was used as a hedgerow or avenue tree. At Hodshrove Place (now Moulsecoomb Middle School) it was planted in avenues and all of these trees were lost to Dutch Elm Disease and the great storm of October 1987. If they lived had lived they would be over 200 years old and would be almost 25m tall.

In Preston Park, Elm was used for hedgerows originally, then as screening for the Manor and the estate. By the mid-18th century it was used for landscaping and reached its peak in popularity, being used to make anything from wheels to coffins, chairs to water pipes.

Elm became more popular on the arrival of the Prince Regent, and Queen Caroline, King George IV's wife who introduced a new species, Dutch Elm. Before this English Elm had become popular for protecting crops in fields and creating ornate plantings.

In the Victorian era, the Stanford family created areas of housing and a 'plants man' (whose name remains unknown) who often mixed rare Elms of unknown origin among other fashionable trees. The Wheatley Elm (*Ulmus minor* 'Sarniensis') and Huntingdon Elm (*Ulmus x hollandica* 'Vegeta') became popular street trees at this time, many of which survive today.

By 1957 Dutch botanist Hans Heybroek's contributions were planted in Brighton adding further diversity. They included many unusual numbered clones which were part of his research to find an Elm Disease-resistant species to replace the many trees lost.

In partnership with

visitBrighton
www.visitbrighton.com

University of Brighton



Brighton's Elm Tree Collection

The maps on this page show where you can see some of Brighton's most spectacular Elm trees. They are only a small part of Brighton's National Collection.

Royal Pavilion Garden

Himalayan Elms (*Ulmus wallichiana*)

These two trees are the last of a batch of Himalayan Elms sent by Professor Hans Heybroek to Alice Holt, and then passed to Brighton Council. They are very rare in the UK. Kew Gardens has only one example; Brighton has 60! In the Himalayan Mountains they exceed 30m. These two trees were planted around 1970.

Dutch Elm (*Ulmus x hollandica 'Major'*)

This tree was brought over by nurserymen from Holland in the reign of King William III of Orange. It was very popular with the wife of King George IV, Queen Caroline. It was first planted in London in Kensington Gardens. It has unusually corky, winged branchlets and the bark is often orange-brown and formed into small corky plates. There are more than 700 mature Dutch Elms in Brighton & Hove.

The Preston Twins: English Elms (*Ulmus procera*)

These two trees are the Preston Twins. They are more than 400 years old and are the world's largest English Elms. Only trees in Australia come anywhere near the size of these trees. The Twins are both hollow now, and the one closest to the road can comfortably allow two people to stand inside it!

Weeping Wych Elm (*Ulmus glabra 'Horizontalis'*)

This species was found in Perth, Scotland around 1856. It is called the Table Top Elm as it appears flat from above. It's a grafted tree which means the lower half is often another tree called the stock and above the recognisable line is the Scion. This is often done to propagate cultivated varieties (cultivars) of trees such as these. This tree was planted around the time of Queen Victoria's Diamond Jubilee.

English Elm (*Ulmus procera*)

The English Elm was brought in by the Romans and used as a means of supporting their grape vines. It then was used for making coffins, small boats, wheels and furniture. Brighton's water mains and sewers used to be made of this Elm. The tree was once a familiar sight in counties like Somerset but Dutch Elm Disease meant all the mature Elms in Somerset, more than a million, were felled. This example has a fine shape and featured in many paintings by the likes of Rowland Hilder and David Sheppard.

Klemmer Elm (*Ulmus 'Klemmer'*)

This tree was raised in a nursery in Holland around 1852 and is very rare in the British Isles. In fact the population of only three trees are all in Brighton & Hove. The leaves are wedge-shaped at the base and the tree looks similar to the European Elm (*Ulmus laevis*).

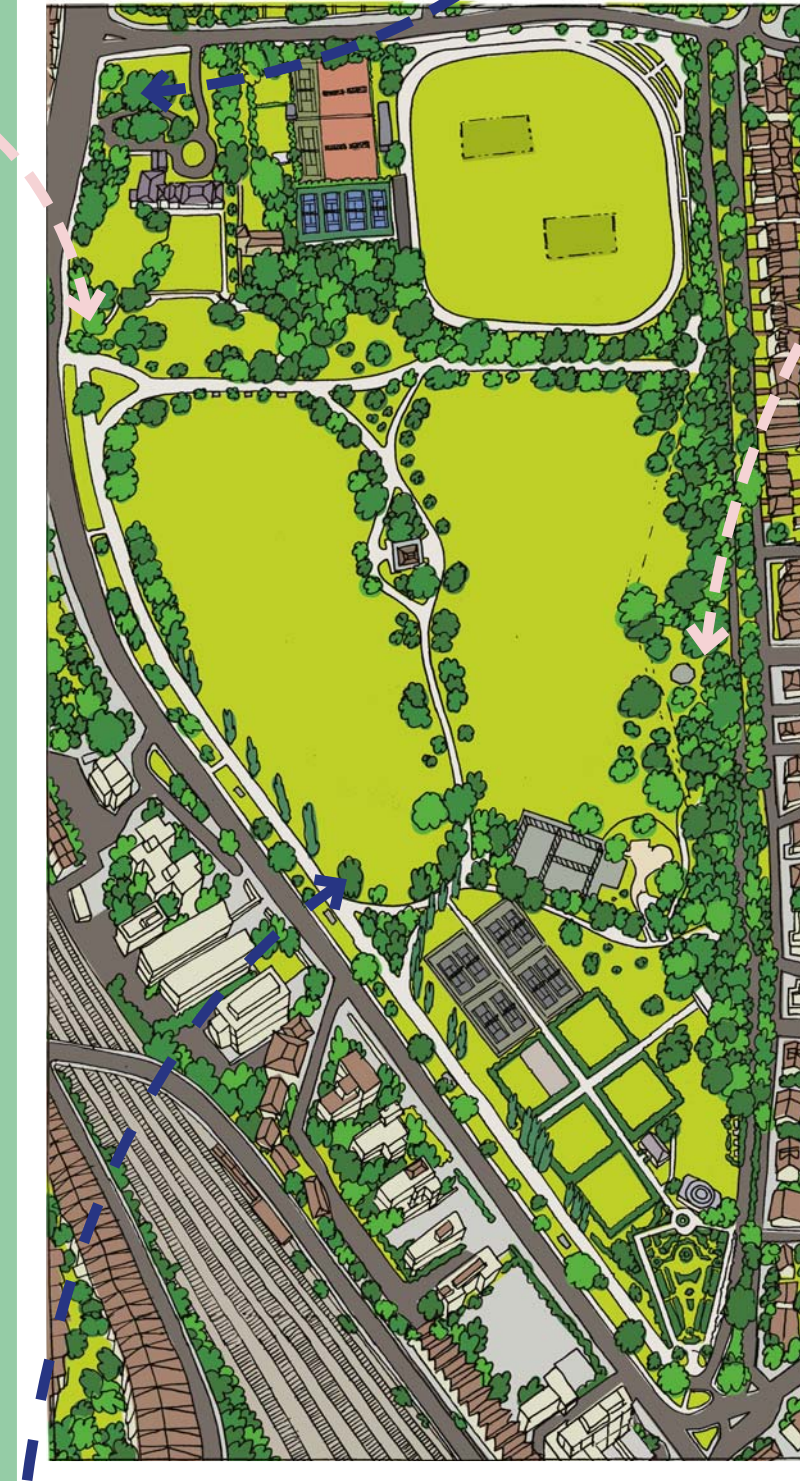
Preston Park

Golden English Elm (*Ulmus minor 'Van Houtte'*)

This unusual golden tree often reverts back to green in shadier situations and has leaves that are very unlike those of the English Elm. The species originates from Holland and can grow quite large in Edinburgh, Scotland. It is quite rare now.

Clone 28 (*Ulmus minor 28*)

This is one of a few Clone Elms in Preston Park. This is the largest of one simply labelled number 28. It is a selection from France and was originally grown for Dutch Elm Disease research in Holland. Clone 28 is the largest in the British Isles and can only be found in Brighton & Hove.



Wheatley Elm (*Ulmus minor 'Sarniensis'*)

This tree species originates from Guernsey in the Channel Islands. This specimen in Preston Park is the largest in the British Isles standing in the World's most impressive and oldest line. The leaves are deep green, shiny and smooth.

Wych Elm (*Ulmus glabra*)

This example is one of the largest in East Sussex. It's a native species of tree that grows in woodlands and is still quite frequent in Scotland. The leaves are very rough to the touch and quite large. This tree is a very fine example of this species as well as being well over 100 years old.

Huntingdon Elm (*Ulmus x hollandica 'Vegeta'*)

This species originates from an estate near the town of Huntingdon in Cambridgeshire. Big trees are still seen around the British Isles but to a much lesser extent than before Dutch Elm Disease. This tree is a huge example growing in a well sheltered spot in the park. It is much loved by children and produces very large shiny green smooth leaves.

Queen's Park

Wych Elm (*Ulmus glabra*)

This is similar to the Weeping Wych Elm in Royal Pavilion Gardens but it is rare to see two trees with the same 'weeping' habit so close to each other. These trees form elegant shade and are quite spectacular. This tree makes a very special photograph with its Victorian Fountain close by.

Regal Elm (*Ulmus 'Regal'*)

There are four trees all of the same type in this area of Queen's Park. The Regal Elm has come from the USA. It is fairly resistant to Dutch Elm Disease and grows to form a shape more like a poplar tree, tall and column-like in appearance.



English Elm (*Ulmus procera*)

This tree is known as the 'Brace Tree' as on one side near the top of the trunk a large iron brace can be seen. It was planted in the 1780's. This tree is older than any in the Royal Pavilion Estate and is featured in Humphrey Repton's landscape application for the Gardens. The tree is completely hollow but is in good health as only the outer part of any tree has living tissue.

Clone 260 (*Ulmus '260'*)

This is a clone brought from Holland and was grown in parts of the UK after it was distributed by the Forestry Commission. All the numbered clones that grow in Brighton came from the Alice Holt Research Centre in Surrey and were sent there by Prof. Hans Heybroek for Ray Evison (Parks Superintendent for Brighton in the 1960's). This type of clone is renowned for having lower limbs which reach out and touch the ground and having leaves which have saw-like pointed teeth on their margins.