

## Queen Elizabeth's Tree in Greenwich Park

Dr Jane Sidell of English Heritage spoke about their investigation of "Queen Elizabeth's Oak" in Greenwich Park on 5<sup>th</sup> February 2014. This is a well known tree, even if the attribution is mythical.

There were two main questions: was it an oak; and was it old enough for Queen Elizabeth I to have known it? The first question was quickly answered – it was an oak, a section of the fallen tree clearly showing the characteristic medullary rays (the first Ordnance Survey map had called it a sweet chestnut – as many trees in the Park are – though the 1891 OS map identified it as an oak, and made the first known written mention of a connection with Queen Elizabeth). The plaque beside it suggests it dated from around 1200 - but this is unlikely, oaks seldom living beyond 400 years. It was already dead a hundred years ago but remained standing, having latterly been held up by ivy (even through the 1987 storm) until blown down in in 1990s. In 1989 an iron support was put in the hollow centre with – but not bolted to – a concrete footing!

Several photographs from 1850s onwards show it, mostly leafless, though Webster, the park superintendent in the late 19<sup>th</sup>/early 20<sup>th</sup> century, said he had seen it produce a few leaves.

The trunk had survived to a height of 8.6m, its diameter at the base about 3m and there was a cavity nearly 2m wide in the middle. After it fell the ivy was cleared away, and it was moved slightly and displayed horizontally with railings round it.

With a hollow centre, the bark and sapwood gone, just counting rings to find its age could not be done. Three sample cores for dendro-chronological analysis were taken by drilling in from the outside and three by drilling out from the inside. An earlier core taken when the tree was still standing, and the outside of trunk still had 26 sapwood rings, gave more data (the person who took this sample had gone on to work in Japan and taken it with him – it had to be brought back). A core was also taken from a younger oak nearby for comparison. Ring spacing was typically 2mm - the spacing depends mainly on the weather, being greater in wet years, less in dry years. (London has a good reference oak chronology – Kent is more like France - the West Country is wetter and has wider spaced rings - East Anglia is inconsistent. Baltic oak was preferred for panelling.)

The ring spacing was profiled and compared with the reference oak chronology; this yielded a sequence of about 230 annual rings, beginning ca 1570.

When young and vigorous the ring spacing is greater, and allowing for this in the hollow centre, Jane Sidell said a reasonable estimate for its start in life was a couple of decades either side of 1300 – giving it a healthy lifespan of about 550 years followed by a lingering death in 19C.

So it would have been quite mature when Princess Elizabeth was a child. Indeed it was there before being taken into royal custody with the emparkment of 1433. It had survived much, a myth perhaps starting quite early: it was not removed when timber for Tudor naval ships was wanted, nor when Le Notre did plans for Greenwich Park for Charles II. A replacement oak was planted by Prince Philip (Jane Sidell thought it might have been a seedling of the Boscobel oak).

She said the results of the study will be published when some remaining details are resolved.