

David Pannett's History of Bicton Part 51

'Log on' to a slice of history

The dry spring this year has revived memories of other dry years, especially 1976 with its water restrictions, parched lawns and forest fires in parts of the Country. Throughout this time trees, including an oak recently felled in Muriel's Little Wood, were making their own record of such stressful years. Within each tree trunk the actively living zone is only a thin layer called the 'cambium', where dividing cells produce new woody tissue within and the spongy 'phloem' outside, beyond which the protective bark is also produced. Each spring the new woody cells are large and open in order to transport water and nutrients rapidly up to the fresh growth of leaves, but they become smaller and denser later in the season. This gives a clearly defined ring sequence for each year which, when counted, can reveal the age of the tree. The specimen in question can thereby be traced back into the late 19th century.

The width of such annual rings, however, often varies, revealing the tree's response to that year's growing conditions, principally available soil moisture. Oak trees have deep roots tapping into water held in the subsoil, which has generally accumulated during earlier winters, rather than relying upon what falls in the summer growing seasons. This can give a time lag in the tree's reaction to changing weather patterns.

In this way a prepared slice of our sample tree, covering over a hundred years, certainly shows some significant, long-term trends as well as brief fluctuations between years. At the start wide rings which suggest a moist climate may also reflect a group of growing trees not yet competing for available moisture. Within the later, drier decades there were, nevertheless, some episodes of flooding along the Severn, such as those in 1946-7.

During the 50s, in spite of famous dramatic events at Lynmouth, in the North Sea and the 'mud bath' West Midlands Show of May 1955, our tree records some particularly dry years which prompted engineers to worry about maintaining the summer flow of the Severn. Their solution, in the 60s was to be the Clywedog dam. By coincidence, the rainfall in the early 60s was sufficient to cause floods and allow wider rings again.

In the 70s, however, several years appear dry, culminating in the famous drought of 1976, when the tree could lay down very little summer wood

A slice of oak felled winter 2010/11

Bicton

bark →
phloem
cambium
2010

Wet years:
wide rings

2000

1990

Severe
drought

1980

1970

Dry years
narrow rings

1960

1950

1940

1930

average rings

1920

1910

Wet years:
wide rings

1900

1890

annual growth rings

cm
3
2
1
0

planted
before
c 1870
↓



after the initial spring growth. More average rings returned in the more normal conditions of the 80s, with even the occasional moderate flood along the river. By now many people in Shrewsbury had got the impression that the Clywedog dam was protecting them from bad floods when, in fact, its function was to be kept fairly full in order to top up the river during dry conditions, as it had done in 1976. It therefore came as rather a shock to experience bigger floods, culminating in the really dramatic ones of 1998 and 2000.

The subsoil was by now thoroughly recharged, to which our tree could respond with growth rings reminiscent of its youthful years. Its last ring, laid down in 2010 did, however, return to a more average width perhaps heralding a drying trend continuing into this year which, no doubt, will be recorded by the other trees still growing in the wood.

The ultimate trigger for all this may be in the balance of cool and warm water in the Pacific, since we are all part of a global climate system just as we are part of a global economy with rising prices of fuel and food. Even in Bicton we cannot escape the rest of the world!



History in the making!