AN EDUCATION PACK FOR SCHOOLS







ommunity Involvement and the Friends of Ecclesall Woods

The local and wider community have long been involved in the care and management of Ecclesall Woods. Until the early 1990's, this involvement was mainly by local conservation groups, such as the Sheffield Bird Study Group, who have long-studied the bird interest of the site, and helped in its associated management, through the erection of bird boxes for example. Furthermore, the woodland has long been used for research and study by local schools, and universities, particularly Sheffield Hallam, who have gathered considerable information on the ecological, social and historic interest of the area.

In 1993, the "Friends of Ecclesall Woods" (FEW) was inaugurated. It currently has a membership of around 150 mainly local people and produces a newsletter four times a year. The Friends provide a focal point for communicating the local community's concerns and interests about the woodland to the Council, with regular liaison between the two through site visits, telephone conversations, attendance by the relevant Officers at the FEW Committee meetings as necessary, and attendance at the FEW AGM.

The Group also undertake wildlife and other ecological surveys, archaeological survey, and help greatly in the on-going programme of path maintenance and improvements, amongst many other things. The group annually attracts grants towards the management of the site, monies towards the path works, as well as Awards for All Lottery Grant in 2000 to fund archaeological survey and an associated leaflet. This schools pack has been produced as a result of a grant from the Local Heritage Initiative. The 'Friends' can be contacted through-

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Ecclesall Woods are managed and maintained by the **Parks and Woodlands** Team under Nick Selwood who can be

contacted at the Recreation Department office at Meersbrook Park on 2500500.



The Western

Ranger team, based at Endcliffe Park on 268 6196, are available to advise schools and lead activities in the woods.

This pack has been produced by Peter Machan, Education Officer at **South Yorkshire Forest**

Partnership,

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SOUTH YORKSHIRE

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N.Selwood, Ecclesall Woods Management Plan, 2004-5 Mel Jones. Sheffield's Woodland Heritage, 1993. Mel Jones and Ian Rotherham. The Natural History of Ecclesall Woods, 1997. David Crossley (ed) Water Power on Sheffield's Rivers, 1989. Peter Machan, Water Mills of the River Sheaf, 1975.





Our Ancient Woodlands

Trees and forests are crucial to life on our planet. They stabilise the soil, generate oxygen, store carbon, play host to a spectacular variety of wildlife, and provide us with raw materials and shelter. They offer us respite, inspire our imagination, creativity and culture, and refresh our souls. A world without trees and forests would be barren, impoverished and intolerable.

The UK is one of the least wooded countries in Europe, with 12 per cent woodland cover.

The importance of tropical rainforests has been highlighted by powerful images of their exploitation. But our own temperate forests are less than a perfect model. The UK's woodland has a chequered history of stewardship and neglect. Our naturally occurring forests have been slowly altered and destroyed to the point where irreplaceable ancient woods have become fragmented and often degraded.

Ancient woodland like Ecclesall Woods is one of the great glories of our natural heritage.

Ancient woods are our richest habitat for wildlife; they are places of inordinate beauty, reservoirs of evidence for environmental change, archaeology and economic history, and a source of inspiration. Ancient woods form a direct link with the original wildwood which became established after the last Ice Age. Those special areas of ancient woodland that have not been cleared or replanted are known as ancient semi-natural woodland. Our remaining ancient woodland is scarce, covers less than 2 per cent of the UK and cannot increase, so what survives is infinitely precious. Yet almost 50 per cent of what little remained of ancient woodland in the 1930s has been lost or degraded, mainly through conversion to conifer

plantations and clearance for agriculture. These depredations have ceased, but ancient woodland continues to be lost; house building, transport and infrastructure development, inappropriate leisure and amenity development, overgrazing and the continued presence of non-native conifer plantations still damage and destroy ancient woods. Only 194,000 hectares of ASNW survive in England.

Analysis of the size of ancient woods shows how fragmented they have become: 48 per cent of ancient woods identified are less than 5 hectares in size. Only 617 exceed 100 hectares. There are just 46 ASNW larger than 300 hectares. A picture emerges of a highly fragmented, largely unprotected residue of ancient woodland, which continues to be threatened and lost. This puts into sharp focus the enormous significance of Sheffield's ancient woodlands, of which there are over 80, and in particular Ecclesall Woods, at 137 hectares the largest area of ancient woodland in the city.

Woodland brings many benefits.

People enjoy woods in all sorts of ways: visiting them and appreciating their beauty; working to protect, create and care for them. Woods create an atmosphere of tranguility and peace close to where people live, and are an essential part of our culture. There is an increasing acknowledgement of the health benefits of woods and trees. Woods can help to counter the adverse effects of air pollution, improve a local neighbourhood, provide access to green space and bring an experience of wildlife, history and nature to people's doorsteps. When people join in to protect, manage and create woodland, individual effort can become part of a wider movement of environmental care.

Children can forge a lifelong bond with nature through growing and nurturing trees. This is critical to the future of woodland and the environment. It is understanding and enjoyment of woodland that will ensure its survival.





Ecclesall Woods, incorporating Ran Wood, Ryecroft Glen and the satellite site, Square Plantation, lie around 5 kilometres south-west of the City Centre, on the western flank of the valley of the River Sheaf and are managed by the Parks, Woodlands and Countryside Service on behalf of Sheffield City Council, working with the Friends of Ecclesall Woods and the wider community. Combined it forms one of the largest woodlands in the District of Sheffield, and the largest ancient seminatural woodland in the County of South Yorkshire. It was purchased by the City Council in 1927 with help from the Graves Trust and officially opened to the public in 1928.

The site is divided into three main

blocks by Whirlowdale Road (B6375) and Abbey Lane (B6068). As such, the woodland is referred to as three main blocks: **Wood 1**, north of Whirlowdale Road, extending to Parkhead; **Wood 2**, south of Whirlowdale Road and bounded to the west by Abbey Lane; and **Wood 3**, lying between Dore and Abbey Lane.

The woodlands provide a wealth of opportunity for **public access**, **recreational and educational activities**, which are heavily exploited by the local community and the wider populace. As such, it forms one of Parks, Woodlands and Countryside's thirteen "City Sites" which represent the best of Sheffield's cultural, biological and historic heritage. However, although well-served by dedicated footpaths and bridleways, the site is under considerable pressure from recreational use.

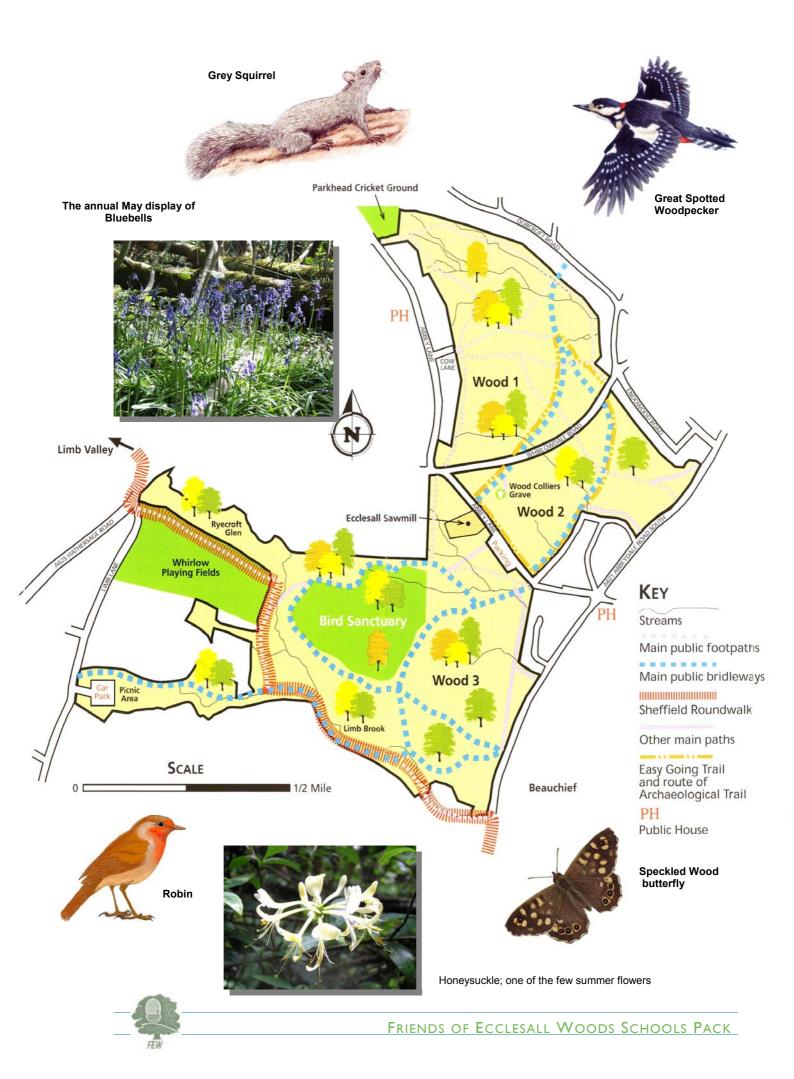
The vast majority of the woodland is ancient and semi-natural. although much modified by a long history of management, particularly plantation forestry over the past 150 years. Mixed stands of mature Oak, both Sessile and hybrids with Pedunculate, Sweet Chestnut, Scots Pine, European Larch, Beech and Sycamore are characteristic, with remnant Alder/Ash woodland along the Limb Brook, other streams crossing the site, and occasional flushed areas. These include remnant wet woodland, a Kev Habitat within the UK Biodiversity Action Plan (BAP).

The wildlife surveys to date indicate that the site is of **City-wide importance for natural history**, supporting a wide range of common and rare species including several of high priority within the UK BAP or on Local Red Data Book lists. As such, the site is a proposed Local Nature Reserve.

The woodland is of considerable historic and archaeological interest, with evidence of human activity and settlement over several thousands years, including a pre-historic "cup and ring stone", which is also a Scheduled Ancient Monument. A great variety of historic documents relating to the woodland survive and have been extensively studied.

A Council-owned **sawmill site** lies within the woodland, off Abbey Lane, in Wood 3. Leased to a private company between 1992 and 2000, the site is currently occupied by the successor to this private company but there are plans to develop the site to represent the heritage of woodland crafts that are part of the history of the woodland.







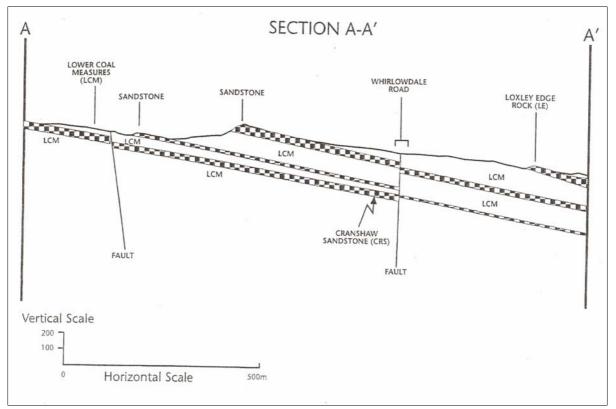
The solid geology consists of strata belonging to the Lower Coal Measures Series of the <u>Upper Carboniferous</u> period. These strata comprise beds of greenish-brown **sandstones**, blue-grey **mudstones** and black **shales** with **coal seams**. The strata dip gently towards the south-east at an angle of about 5 degrees. Some faults traverse the area causing localised displacement of the outcrops but this only affects the northern most tip of the site.

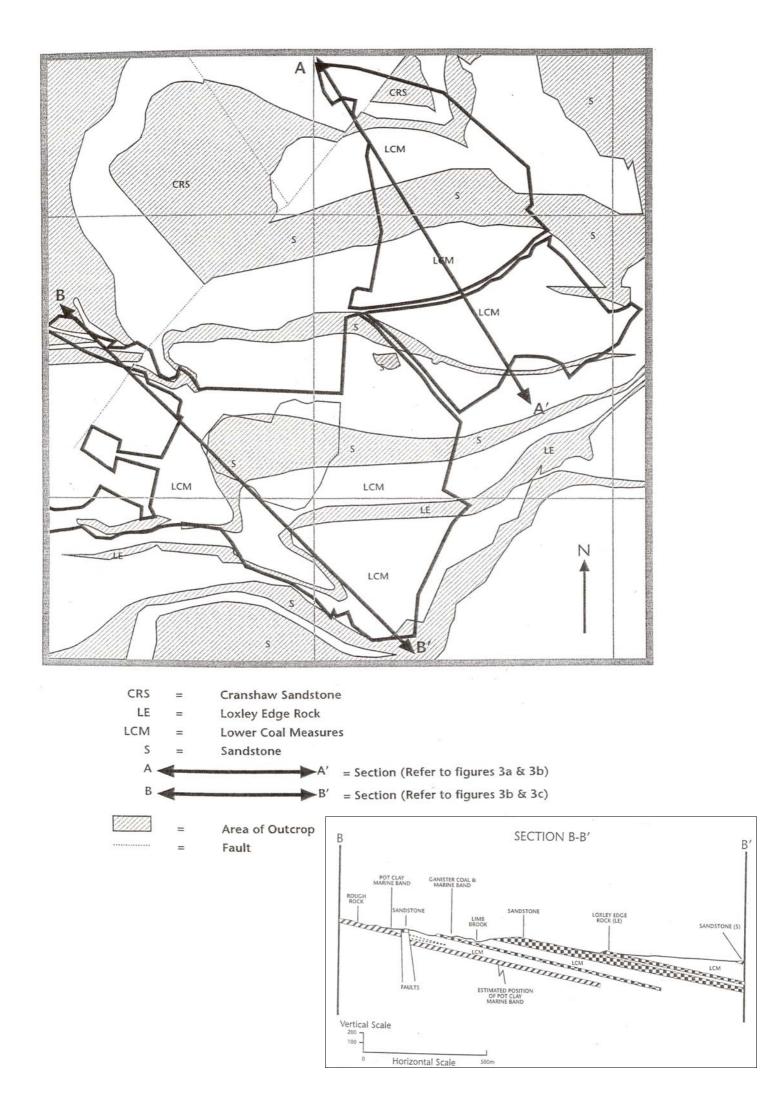
The characteristics of the **sandstones** enable them to be more resistant than the softer **mudstones and shales** and therefore create distinct convex slopes whereas the softer mud rocks have produced concave slopes in the topography. Furthermore, the sandstones are porous and permeable, enabling water to percolate downwards through them, and then to seep out,

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near the boundaries with the underlying mud rocks, as intermittent springs.

Some of the sandstones have been guarried, on a small scale, eg at the site of the sawmill. The mud rocks are weak and are readily removed by natural erosive processes thereby encouraging the development of hollows and gullies by surface water. The coal seams, in most instances, are thick enough to make them worth exploiting for the local metal industries. Over the past centuries they have been excavated at different times leaving behind uneven ground and evidence of the waste materials such as rock fragments and ochre deposits. The Limb Brook cuts deep into the strata along the southern section and exposes them in several places or creates very steep-sided sections to the valley as it traverses the sandstone. The flood plain of the Limb Brook has a veneer of recent alluvial deposits of gravels, sands and slits derived from the bedrock over which the river has travelled







1. Origins of the Woodland

Around 13,000 years ago (11,000 BC) the last glaciers and ice sheets of the Ice Age melted, the frozen ground thawed and the climate in Britain improved sufficiently to allow trees to return from those areas of Western Europe which had remained outside the grip of the freezing conditions. Wind borne seeds and those spread through the droppings of birds and animals gradually colonised the British Isles from the south - east. From the evidence provided through the study of pollen grains which came to rest in bogs, lakes and ponds we have been able to discover that the first trees to take root in Britain after the Ice Age were arctic trees such as Aspen, Birch and Willow. Pine, Hazel, Alder and Oak followed these, which were in turn followed by Elm and Lime. Finally came the Ash, Holly, Hornbeam and Maple, which found it more difficult to spread over a wide area as the bare ground had already been colonised by the earlier arrivals.



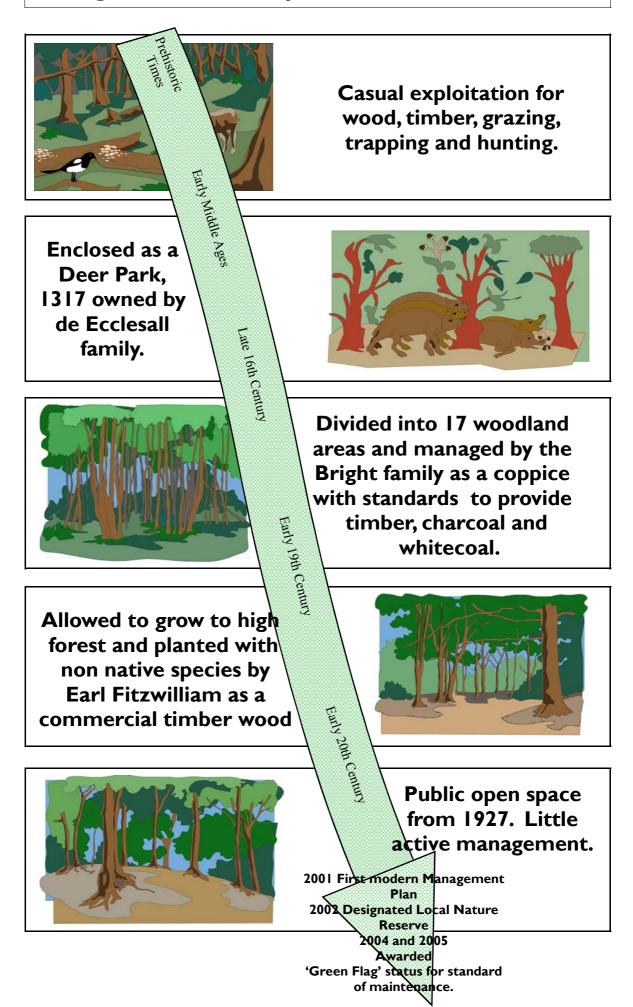
A period of adjustment followed as the various species jostled for territory, with each variety of trees pushing some species out of some locations and giving way to others in different locations. Finally, around 4,000 years ago, the wild-wood (a name coined by the Cambridge ecologist Oliver Rackham to describe woodland as it was before human beings began to make their mark on the landscape) was fully developed.

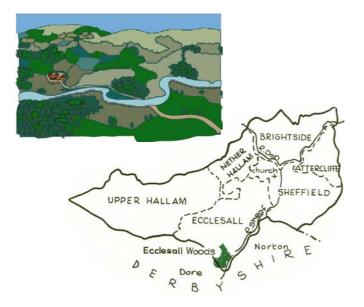
Humans began their deliberate clearance of the wild-wood around 6,000 years ago, although the amount of woodland that was more or less permanently cleared in the period that followed, up to the time of the Domesday survey in 1086, must have varied greatly from region to region and from district to district. What has become increasingly clear through investigation is that a great deal of woodland had been cleared by Norman times and the country was not mainly covered by the wild-wood as many of us imagine. In fact in many areas what we think of as typical 20th century English countryside, with hedged or walled fields, winding lanes, farms, hamlets, villages and scattered woods was already in place and had been for centuries.

The earliest history of Ecclesall woods is unclear. Ancient woods often survive in the far corners of parishes as these were the last areas to be cleared before the Norman Conquest. Ecclesall Woods lie in a far corner of Ecclesall township in the Parish of Sheffield where the parish boundary follows the River Sheaf and the Limb Brook. This is an ancient boundary, separating Yorkshire and Derbyshire. Before that the boundary between the kingdoms of Northumbria and Mercia followed the same route.



Stages in the Development of Ecclesall Woods.





At the time of the Domesday Survey, 1086, the local area was dominated by **wood-pasture** like much of the Sheffield and Rotherham area. Pigs would be driven here to browse on the acorns and grub for roots. Population was still scattered and sparse, and the woodlands were exploited and used for their timber and as pasture for grazing livestock.

Some pasturage continued throughout the subsequent centuries. Right into the 18th century fenced areas of the woods were leased to local farmers for pasturage. The rates for 'gist' as it was called, were charged by the month or week. In 1627 we read that John Oates of Whirlow was paying rent for herbage and in 1703 Anthony Offerton paid 4/- to graze his mare for a month. Cow Lane, the ancient way from Abbey Lane into the woods, may well have been an access route for farmers, hence its name.

2. The Wood becomes part of a Deer Park.

In the Middle Ages the woods were part of the manor of Ecclesall belonging to the **de Ecclesall family**. In 1317,

Robert de Ecclesall was granted a licence to impark an area around his manor house at Ecclesall. Ecclesall Woods may have been part of this park. Certainly, adjoining place names like Park Head, at the northern point of the woods amongst others, suggest the location of a Park on the northern limits of the site. In the eighteenth century one of the compartments within the site was named as Warren Wood (rabbit warrens were often created in deer parks), and in the seventeenth and eighteenth century there were two launds on the western side of the woodland and one within the south of the wood. *laund* being a name for a clearing or pasture within a woodland.

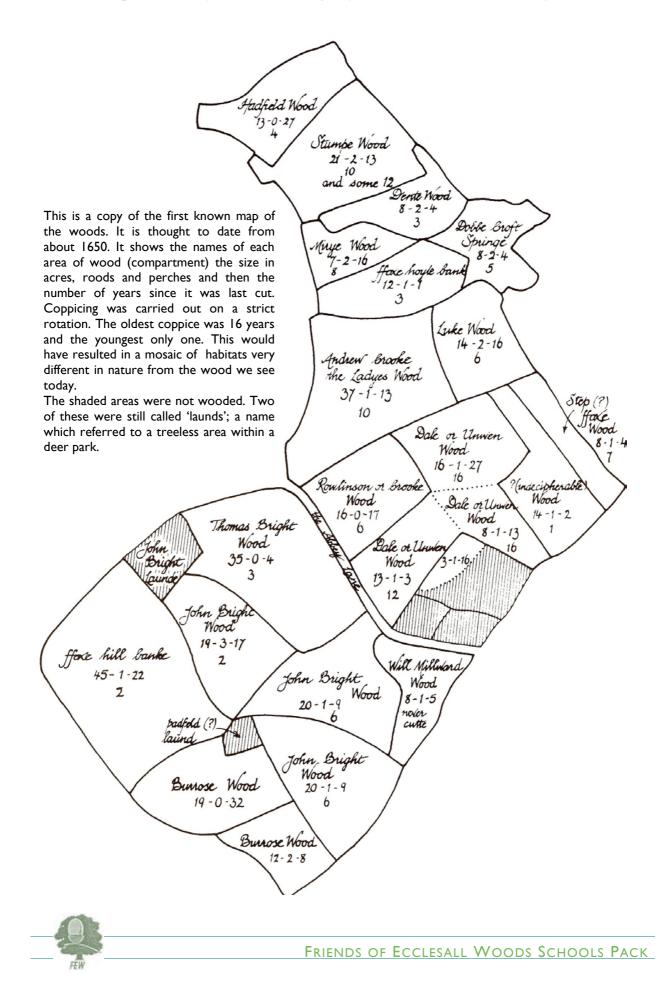
It is still possible to follow banks and ditches across the wood adjacent to the Limb Brook that may well have been the boundaries of this enclosed parkland. Such parks were not primarily for hunting deer but would be managed to ensure a reliable source of venison, rabbits, game birds and timber. However in a document dated 1587 George, Earl of Shrewsbury asserted that he, his father and grandfather *"used sett and placed crossbows to kill the deer in Ecclesall Woods and to hunt at all times when it pleased them."*

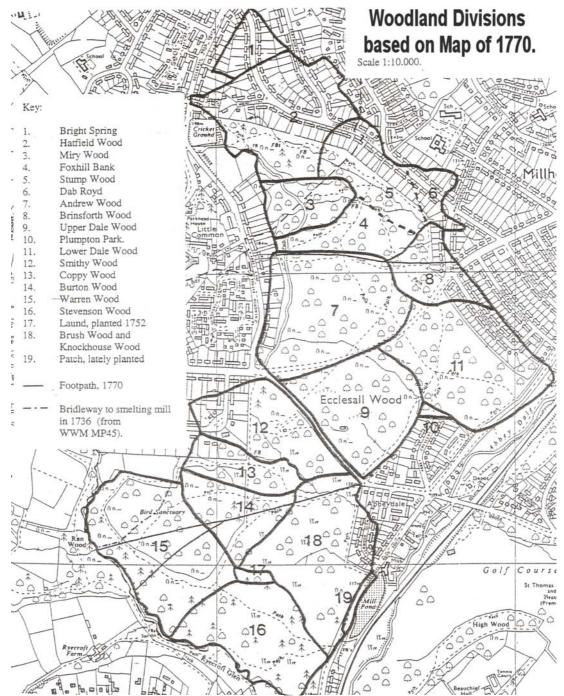
3. The Wood under Coppice Management

By at least 1587, Ecclesall Woods was a 'spring wood' under *coppice with standards* management, like the majority of surviving ancient woodlands in South Yorkshire. As human populations rose, pressure on the surviving woodlands from grazing and getting of timber required the introduction of a form of management which gave a sustainable and self-



'Ecclesall Woods Inscribed as they lye adjoining one to another with their names quantities of Accres and age of the woods since the last falle.'





renewing supply of wood ie coppicing.

From the de Ecclesalls the woods descended with the manor of Ecclesall through several owners until they were acquired in about 1636 by the **Bright family**. Stephen Bright of Carbrook Hall (which still stands in the Don Valley near Meadowhall retail park) was the first of this very influential Sheffield family to become lord of the manor of Ecclesall. His brother, John, became vicar of the parish of Sheffield and it was his grandson, also John, who took command of the Parliamentarian forces in the Civil War and took the castle. At various times in the next two centuries members of the family had houses at Whirlow Hall, Ecclesall Hall, Brincliffe Edge, Nether Edge, Greystones and Banner Cross. They were a well to do family with wide interests in farming and in lead.

A lease of 1649 to the Bright family demonstrates that the woodland was



compartmentalised and utilised to produce charcoal and whitecoal. Each compartment was given an individual name. A survey of 1649 "Lead Smelt Mills and the Making of Coals" gives the following vivid description:

"... All & only the woods & springes and pcells of woodground ... containing by estimation three hundreth three score & tenn acres ... in the Mannor & Lordshipp of Ecclesall ... & the herbage of the said pslls of woodground ... and those two old Lead mills or smilting houses ... being in or near the said woodground ... and waters watercourses dames goites waires shuttles banckes sluces and bridges ... John Bright doth grant unto ... Nicholas Stones ... full & free liberty ... to fell & cutt downe all & the said woodes and underwoodes ... and there to make the same woodes into charcole or whitecole ... or to co[n]vert the same to any other use ... and to have & take ffodder & earth fearns and other needful thinges ... for making of the same into charcole or whitecole and to make & cast pitts and kilnes for the coaleing of the same either after the one sort or the other ...".

The trees were coppiced every 15 to 20 years, the trees having been stripped of bark the previous year for use in the tanning industry. Certain trees were left to maturity and felled at intervals of 60 to 80 years. The roots would be 'stubbed up' for the charcoal makers and areas of cleared woodland were therefore often called 'stubbings.' there are fields at Whirlow called Stubbings and Stubbings Bottom.

There are surviving records of these processes. In 1677 Thomas Offerton was paid \pounds 1 for loading great timber from the wood. It had taken four men four days to grub out roots. In 1730

John Dungworth of Whirlow Hall received payment from the Bright's steward, Mr. Battie, for laying and hedging in the woods. It required 300 sharpened stakes for which he was paid 4/-. John Dungworth was being paid a salary of £2.10s per annum for fencing and general maintenance work.

In the seventeenth and eighteenth century Ecclesall Woods comprised of separate, named woods which changed gradually over the centuries. The postmedieval woodland does not include Ran Wood, Ryecroft Glen or Square Plantation. As previously mentioned, the woodland continued to be let as herbage (agistment) into the eighteenth century.

With the marriage of the **2nd Marquis of Rockingham to Mary Bright**, Ecclesall Woods passed into the Rockingham land (later Fitzwilliam Estates) holdings in 1752. From then until early nineteenth century the woodland continued to be managed as coppice with standards. The eighteenth records show coppice cycles varying from 14 - 43 years; the longer cycles suggesting that Oak timber for building projects was important, with Oak underwood providing pit timber, and bark for use in tanning leather.

4. The Wood becomes High Forest

From the early to late-nineteenth century, the woodland was gradually transformed into a high forest, as coppice management was abandoned. Introduced species, particularly Sweet Chestnut and Beech were planted extensively, as well as Scots Pine, European Larch, Sycamore, Hornbeam and others. From 1824 until 1899 largescale planting was underway. For



example, in 1824, 27,500 Larches and Ashes were planted following a coppice felling within the woodland, whilst 21,000 trees were planted in Edlington and Ecclesall Woods in 1833. After 1845, only a few moderate plantings took place.

The planting actively reflects the gradual transition from coppice-withstandards to high forest management when it is suggested that three processes were taking place simultaneously:

- Planting of gaps at the end of the coppice cycle with both conifers and broadleaves;
- Natural regeneration;
- Outgrown coppice stools.

'Falls' of wood ie from coppice management, stopped after 1859. In 1848, the first *timber* sale was recorded, and from 1853 until 1900-01 (with the exception of 1897 and 1898) took place continuously.

This transition to high forest reflects the changing markets for woodland products. Coppice management was in steep decline nationally at this time, in the face of competition from coal for domestic fuel, and the rise of steel and iron in construction, etc. Similar changes in woodland structure and composition took place across South Yorkshire during the nineteenth and early twentieth centuries. The wood reverted to something like its former forest state. A local writer, G.R. Fraser, reflecting on his youth in the 1850s wrote-

Ecclesall Woods, with its fine old trees and lusty bracken seemed to us a parch of primeval wilderness. We were fond of two enormous hollow oaks, each of which was

roomy enough to comfortably hold ten for lunch or tea.'

5. The Wood is Acquired for the Public

In 1927, Ecclesall Woods was purchased from the Earl Fitzwilliam for £45,000; £10,000 coming from Alderman Graves, and the remainder from the City Corporation (Deed no 3692). It was officially opened as a public open space by Her Royal Highness Princess Mary on 23rd August 1928. In 1929, an area of 17 hectares was reserved as a bird sanctuary, maintained to the present day. Ryecroft Glen was gifted by J G Graves to the Council in 1937.

During the twentieth century, the woodland has become almost entirely surrounded by urban development, with the exception of areas opposite Limb Lane (Whirlow playing field), and significant areas of the post-medieval woodland have been lost particularly along the north-eastern boundary. In 1920, Whirlowdale Road was cut through the eastern half of the site.

Since acquisition by the Council, silvicultural management of the site has been limited, with works related to public safety predominant. However, extensive gale damage in 1962 led to the harvesting of substantial amounts of fallen mature timber throughout the site, followed-up by some generally unsuccessful re-planting with predominantly introduced species like Pine, Larch, Sitka Spruce, Horse Chestnut, Hornbeam and Wild Cherry (Southern Tree Surgeons 1971). The major windblow of the 1960s led to the development of Ecclesall Sawmill in 1962.



