

Teacher's Notes and Resources.



Forest Education Initiative



The Tree 37 Project

The public launch event on Saturday the 25th of February featured the felling of Tree 37, aiming to demonstrate why it is sometimes necessary to fell such apparently healthy trees. The Arts Council provided financial support for the artists to demonstrate their work at the event, and funded the exhibition of the final products made from Tree 37 in the summer. A 'Woodmiser' mobile sawmill was set up on site and the public was able to watch the massive tree trunk being cut into planks. Some of the wood was used on site in the 'green' by the greenwood turners, chainsaw carvers and Rangers making carved benches. Most of the timber, however, was dried in our kiln at Ladybower before being used by the fine furniture makers.



In addition the team visited local schools giving an exciting demonstration of chain-saw carving and talks to promote the event and artists worked with children on their own creations using branch wood, twigs, dead leaves and shavings from the tree.

The final products were brought together for an exhibition in Sheffield's Winter Gardens, itself a spectacular example of the use of timber in modern building design, and following this a gallery, called **Gallery 37**, has been established at the sawmill in **Ecclesall Woods on Abbey Lane, Sheffield**. The gallery features the work in wood of local artists and craftspeople.

This unique DVD, whose production was partly funded by the Forest Education Initiative, tells the story of the tree and traces the timber from the tree to its many uses. The accompanying booklet illustrates the pieces exhibited and the maker's comments on them.

More information on the artists and craftspeople involved in this project and their products can be seen on

www.workingwoodlandsproducts.co.uk and

www.wood-fuel.org.uk.

For information and teaching resources on trees and woodlands in South Yorkshire see

www.heritagewoodsonline.co.uk.



The Tree 37 project was put together by South Yorkshire Forest partnership to demonstrate the sustainable use of timber from trees that are felled locally. Our chosen tree was a massive 150 year old Beech which grew in the woods beside a very popular public footpath through Sheffield's Porter Valley. It had been marked for felling as part of the City Council's woodland management scheme. It was at this stage that it acquired its number 37 from the number that the foresters marked on its grey-green trunk.

Trees like this are especially precious. They are central to our sustainable future. Their beauty and grandeur contribute to people's recreational health and well-being as well as providing an unrivalled wildlife habitat. They are a supplier of wood and a wild food supply. They can supply materials for building, furniture and artworks and supply fuel for heating.

It was because the high cost of felling such a large mature tree was already being financed by Sheffield City Council for safety reasons that this project became viable. Additional funding was acquired to create a coalition of local independent artists and crafts people who would use the timber in creative and innovative ways and to bring the final articles to an exhibition. Beech wood is pale brown, hard and strong. It is not suitable for outdoor use but responds well to bending under steam treatment and can be used in furniture making. Its colour and even texture make it ideal for making wooden bowls, spoons and bread - boards and it can be used for firewood or in charcoal making. The wood from Tree 37, having been infected by the fungus, had acquired a particularly attractive character with darker rings and bands.

The Urban Tree Crisis

It is tragic in a number of ways that towns and cities are losing many of their most loved and distinctive trees that were planted over 100 years ago when the streets were laid out. A typical example is the loss of the Barnsbury Beech in Islington, London, in 2005 —

Islington to lose a famous resident, the Barnsbury Beech

Islington is to lose a well-loved landmark, the Barnsbury Beech. The tree, listed as one of the Great Trees of London and subject to a Tree Preservation Order, has fallen victim to a terminal fungal infection which will see it removed by Islington Council's tree service during the week commencing Monday 17 October.

The beech, which is believed to be more than 150 years old, has lived through two world wars but has finally been defeated by *Meripilus giganteus* which is a common cause of death for mature Beech trees. 26-Sep-05

In 2005 it was noticed that fungus was emerging from the base of our Beech tree. It was one of the increasing number of mature urban trees that are succumbing to diseases of one kind or another. It was found to be infected with the *Meripilus* fungus which attacks the roots of Beech leaving the tree unstable and potentially dangerous. *Meripilus giganteus*, also known as the Giant polypore, is a common cause of the death and/or windblow of mature Beech trees. It is considered very serious and dangerous when in an urban environment. When the fruiting body appears in late summer or autumn, it is a sign that the fungus is very well established and the tree is likely to become unstable if it is not so already.



Meripilus at the base of the trunk of a Beech tree.



Close up of Meripilus fungus.

The more numerous the clumps of fruiting body, the greater the risk. Often the beech tree will look in good health right until the end, however if the crown is also thin and dying back, the risk is immediate. The reason for this is that the fungus destroys the deeper-going roots, leaving the shallower roots healthy and intact until the very last.

Unfortunately the high cost of felling, transportation and storage means that it is rarely economic to use the timber from such trees. They are almost invariably dumped in landfill sites. So under normal circumstances that would be the end of this monumental tree. South Yorkshire Forest Partnership, however, saw a golden opportunity to put together a project that could become a blueprint for the use of timber from such critically damaged trees.

Timber, the Sustainable Resource

www.woodforgood.com

Timber is the only major building material that is renewable. Forests grow on a surface covering about one third of the world's landmass. They provide a huge sustainable source of environmentally friendly raw material - for a tremendous variety of products!

Using timber does not cause global warming, timber does not require energy intensive processing, and it is not problematic to dispose. Provided products have been responsibly sourced, buying timber can ensure the sustainable use and responsible management of the world's forests.

But also in use, timber has convincing competitive advantages against other materials.

Analysing all the stages of production – from the planting of a tree, its felling, transport, etc. to the disposal or reuse of timber - and comparing the sum of its impacts with other construction materials, reveals the most positive characteristics of timber for modern construction. For example,

The product energy requirement, in kilowatt hours, is 8 times higher for a PVC-U window compared to a timber window

The manufacture of steel components uses 4,000 times more energy than its timber equivalent

Concrete creates 5 times as much solid waste

The thermal resistivity of wood is - 8 x better than concrete - 413 x better than steel and - 2,000 x better than aluminium

What is Sustainable Timber?

<http://www.forestsforever.org.uk>

Sustainable timber means that the tree harvested will be replaced by another tree, whether naturally grown or planted. Extraction is compensated for, unlike in the case of most other materials. 'Sustainability' is not only about quantity, but also about the ecological quality of the resource base - the forest. 'Sustainable timber' means that regardless of the extraction of individual trees, the forest maintains its ecological function as for biodiversity, climate and water cycles.

'Sustainable' is also about people. 'Sustainable timber' implies that local people are involved in the benefits from the forest. Thereby the forest means value and long-term income in particular to local people. It was this value to local people that ensured that our woodlands were carefully managed until the beginning of the last century. The beech woods of the Chilterns, for example, were managed to provide the materials for an important local furniture industry. European countries and North America have a long tradition in sustainable forest management and high standards of environmental protection. In addition, the quality of the forest management is independently certified.



What is Unsustainable Forestry?

<http://www.illegal-logging.info/>

Maintaining forests is essential in maintaining a healthy diverse environment as nearly ninety percent of terrestrial biodiversity is found in the forests of the world. Illegal logging results in unmanaged and often irreparable deforestation. Threatened forests in Asia, Africa and Russia are home to a number of critically endangered species. The current failure to protect forests around the world from illegal (and in some cases legal but unsustainable) logging is resulting in what has been described as the next great “spasm of extinction”.

Forests help to shelter water resources in the ground, protecting vital supplies for animals, communities and, in some cases, other resources such as hydropower. Short term commercial exploitation of forests can lead to many long term problems with water supplies in local areas, and water protection is one of the ‘ecosystem services’ that, it is hoped, may help to pay to protect forests in the future.

In addition to immediate environmental damage, over half of the developing world’s carbon emissions come from deforestation which, according to the World Bank, accounts for between ten to thirty per cent of global carbon emissions and contributes to global and regional climate destabilisation.

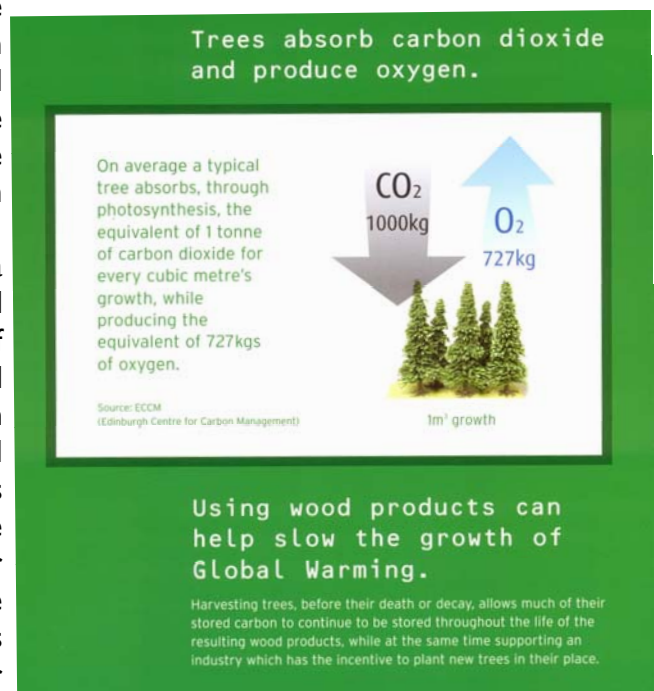
As noted above, illegal logging is a major cause of deforestation and poor national forest governance undermines attempts at the international effort to provide financial incentives to governments that wish to protect their forests.

Woodfuel and the Carbon Cycle

<http://www.forestresearch.gov.uk/fr/INFD-66SHAG>

One of the principal ways in which humans influence the carbon cycle is through the burning of fossil fuels. This burning releases into the atmosphere carbon (in the form of carbon dioxide) that has been bound up in plants, rocks and fossil fuels. The use of bioenergy confers many benefits but, in particular, it reduces landfill pollution and emissions and promotes biodiversity through the sustainable management of woodlands. At the individual level it offers economic advantages in terms of fuel costs and rural employment.

Woodfuel is not new: wood has been used as a fuel since humans first learned how to make and harness fire. It has always been a major source of energy for heat and light, providing comfort and power. But woodfuel is news again, going through a resurgence, replacing fossil fuels for heat and electricity in an attempt to cut greenhouse gases and other emissions. Many areas of the world are well ahead in their use of woodfuel and other sustainable energy sources and the UK is in the process of catching up. The forest industry is currently being swamped with requests for information and support from a new and exciting market sector.



Lea Torp-Neilson, Community artist.



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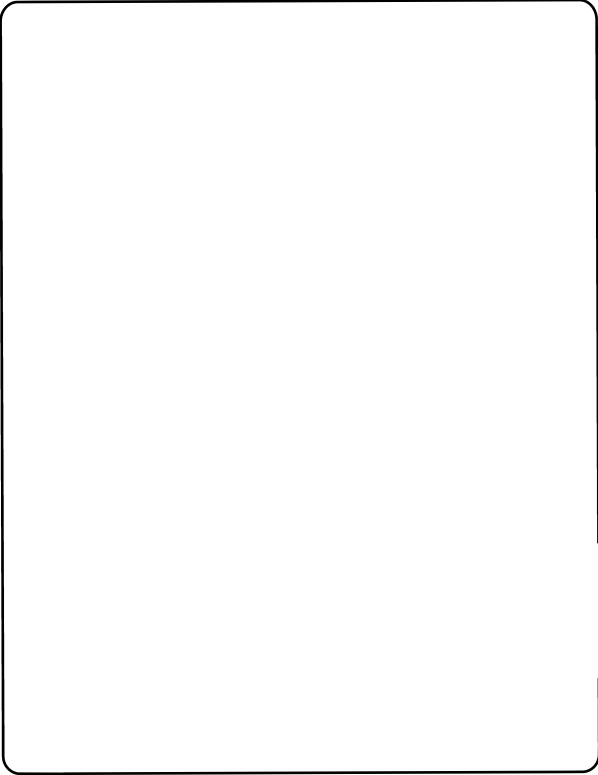
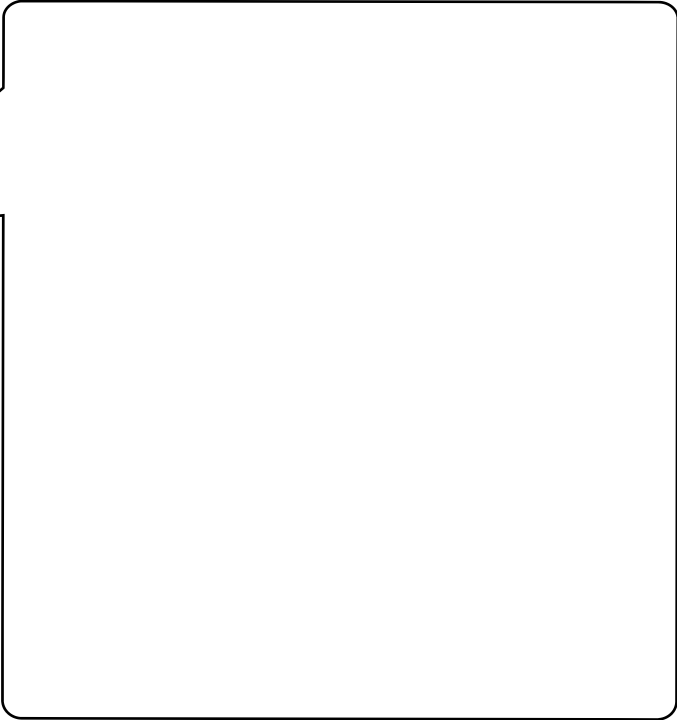
Child in School or at the Launch Event

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Write a sentence in each of the speech boxes that the person says in the film that best expresses why they think that it is a good idea to use timber in this way.



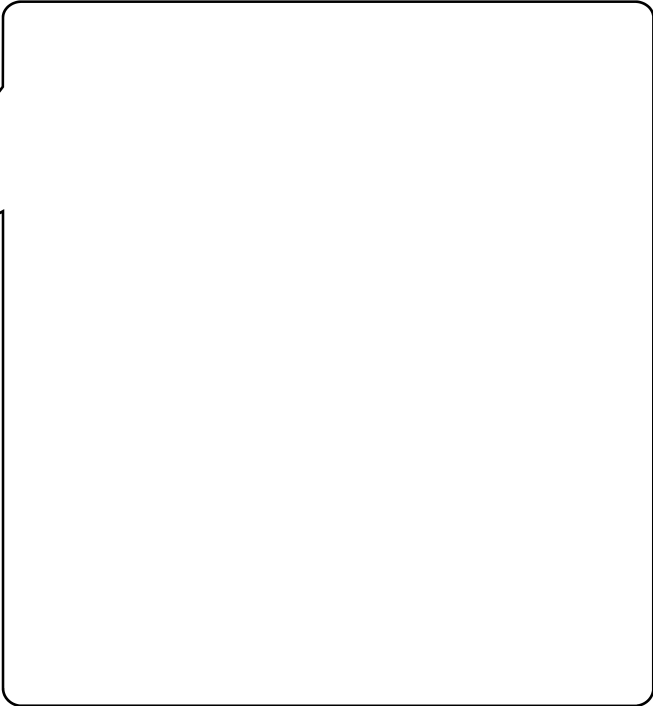
Fin Lucas, Furniture Maker



Jason Thompson, Wood Carver



Ray Lister , Charcoal Maker



Robin Wood, Wood Turner



Dick Bradford, Wood Energy Officer.



Lorraine Botterill, Chainsaw Carver



In the boxes draw what each of these people made from Tree 37.
Draw some of the tools they used. Which did you like the best?



