



*The entrance to  
the visitor centre*

### **Shorne Wood visitor centre opens**

Lee Evans Partnership (LEP) has just completed a striking new visitor centre at Shorne Wood, Kent County Council (KCC)'s popular country park near Gravesend, that seeks to create a benchmark for sustainable architecture with its pioneering use of sweet chestnut. The centre was opened on Tuesday, 18 July by Baroness Andrews, parliamentary under-Secretary of State for the Department of Communities and Local Government, and Kent County Council cabinet member for environment, Keith Ferrin. Mr Ferrin described Shorne Wood as a shining example of the kind of environmental excellence KCC is championing in its new vision document Towards 2010.

KCC's brief was to design a sustainable, eco-friendly visitor centre which was contemporary, but firmly rooted in Kentish tradition. The centre had to provide a stimulating environment to enable visitors to interpret the use of wood in its various stages and to interact with the adjacent ancient woodland, meadows and wetland. Importantly, it was also to demonstrate best practice and renewable technologies in the expanding north Kent region to help inspire visitors to make a difference to the environment in their own lives.

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### Shorne Wood visitor centre opens (continued 2)

The site is located by an historic sweet chestnut coppice and the driving force behind LEP's concept was to use this sustainable wood in the building wherever possible. For the first time in the UK sweet chestnut has been used throughout the building process, in the centre's structural, curved, glue-laminated frames, and in the external cladding and internal floor finishes. However, this posed two significant challenges.

Firstly sweet chestnut is not naturally suited to structural use and is generally used in construction as feature cladding on contemporary buildings. LEP needed to prove that sweet chestnut could be used for structural support. By fabricating sweet chestnut into glulam timber beams – i.e. taking small selected pieces of timber and finger jointing them together to form a larger composite section – LEP realised they could gain a useful engineering beam shape. As there was insufficient published engineering data available for sweet chestnut to enable the project engineers to calculate the dimensions and connection details, Inwood, the only manufacture of sweet chestnut glulam beams in the South East, made several beams for BRE testing. The results from these successful tests were then transferred into the engineer's specification. Secondly the design concept called for a structure which not only reflected the area's local historic shipbuilding tradition but would allow the building volume to undulate reflecting the landscapes of the Kentish downs whilst never exceeding the maximum height of a Kentish cruck framed barn. Initially a key constraint was Inwood's jig which could only produce beams 7m long. However, an innovative structural solution turned this restraint to advantage. Thirty two identically curved glulam sweet chestnut beams were designed, benefiting from economies in scale, and pairs of beams connected together, in a similar fashion to the 'hinge' on a pair of scissors. It was then possible to open and close the cruck beams thereby increasing and decreasing the ridge height of the building, and by extension, decreasing and increasing the width of the building.

Careful scale, choice of materials and innovative construction has led to an honest design that not only embraces the surrounding countryside but whose language, although resolutely modern, is paradoxically firmly rooted in Kentish tradition. The internal structural beams, reminiscent of an upturned boat, are a modern twist on a traditional 'Kentish' cruck frame and offer a contemporary solution to the age-old problem of providing clear internal volume, whilst creating a built form that inspires and demonstrates the possibilities of sweet chestnut as a building material. The soft curves of the 'S' shaped building lead the visitor on a sensory journey in which they experience the unmistakable smell of wood, constant surprise at the changes in internal volume and are encouraged to feel the different finishes of timber used in construction.

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### Shorne Wood visitor centre opens (continued 3)



*The internal beams reminiscent of an upturned boat*

Located to the east end of the building the Interpretation Centre forms an impressive, vaulted public space which encompasses the whole volume of the chestnut frames. Another of the many appealing features is the viewing deck at first floor, which runs along the northern and western facades, offering stunning panoramic views across the ancient woodland, meadows and wetland.

Eco-friendly features include the use of wind and solar power, recycled rainwater and bio-mass heating. Other facilities in the centre include information, environmental and educational resources, with disabled access, as well as a café and sensory garden.

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### Shorne Wood visitor centre opens (continued 4)

#### Notes:

1. Project funding partners: Primary funding came from the Department for Communities and Local Government (DCLG) Thames Gateway Programme, a large percentage of the outstanding balance was contributed by Kent County Council, who also lead on the development of the centre. Other funding partners included Clear Skies, the Forestry Commission, the South East England Development Agency (SEEDA), KCC Rural Revival, WREN landfill tax, Ibstock Cory, Rail Link Countryside Initiative and Inwood.

2. Sweet chestnut coppices cover a staggering 18,000 hectares in the South of England, but only 10% of this timber is currently used. Ecologically it is hoped the visitor centre will play a large part in kick-starting chestnut coppicing, which now, as a much-neglected rural industry, is potentially causing serious damage to the forest floor. As a direct result of this project, sweet chestnut has now been tested by the BRE and data is readily available to other British architects to encourage them to specify this attractive, temperate hardwood more generally in construction. Visit [www.bre.co.uk](http://www.bre.co.uk).

3. Shorne Park currently attracts around 180,000 visitors a year and is set to become a new strategic focus for North Kent for access to the surrounding countryside. The visitor centre is a crucial resource which will not only demonstrate the latest in both sustainable building techniques and technologies but will provide visitors with state-of-the-art facilities to enjoy the park's outdoor attractions to the full. The centre is just the first phase of an ambitious heritage project designed to increase public access to Shorne Wood, nearby Randall and Brewers Wood, with additional links to local attractions like Cobham Park. It also aims to encourage wildlife, give greater protection to local heritage features and provide a range of new nature trails and sculpture to enrich the visitor's experience.

*All photography by Robert Greshoff*