Gridline

The magazine for
National Grid grantors
Winter 08

nationalgrid
The power of action.

Bank on us

How National Grid protects the landscape

Heritage at risk

Preserving the past for future generations

Tall order

Grantor's unusual harvest feeds the giraffes at Chester Zoo

Also in this issue: tree management, inside a Sainsbury's supply depot, win a weekend break

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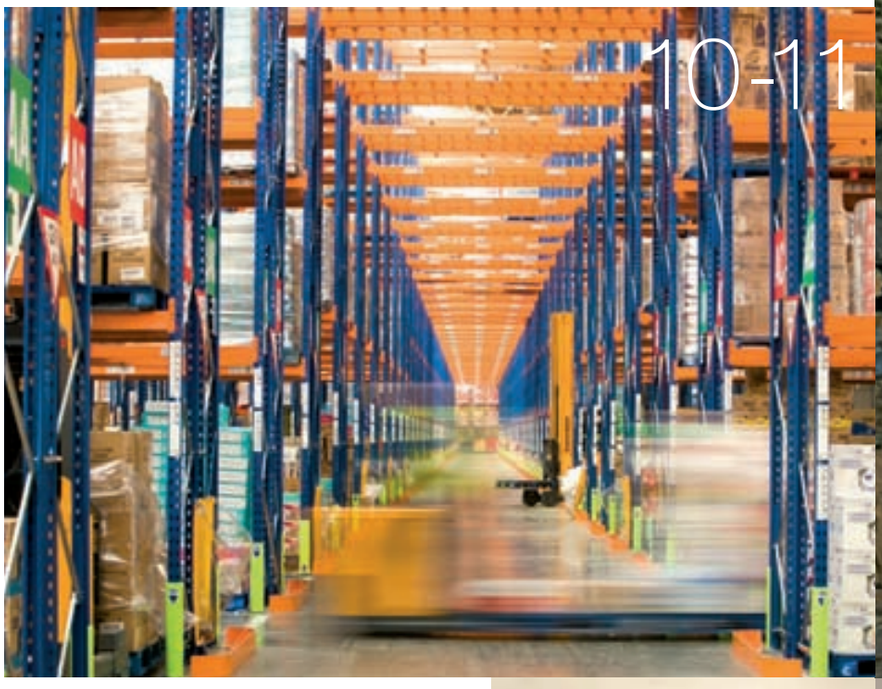


NATIONAL GRID'S LAND AND DEVELOPMENT GROUP is responsible for acquiring all rights and permissions from statutory authorities and landowners needed to install, operate and maintain National Grid's electricity and gas transmission networks. We act as the main interface for landowners who have our gas and electricity equipment installed on their land. Listed below are your local Land and Development Team contacts. Please email any changes to your contact details to gridline@uk.ngrid.com or fax to 01926 656574.

ELECTRICITY AND GAS

- North West and Scotland 0161 776 0706
- South East 01268 642091
- South West 01452 316059
- East 0113 290 8236

WAYLEAVE PAYMENTS

- For information on wayleave payments, telephone the payments helpline on 0800 389 5113.

ELECTRICITY EMERGENCIES

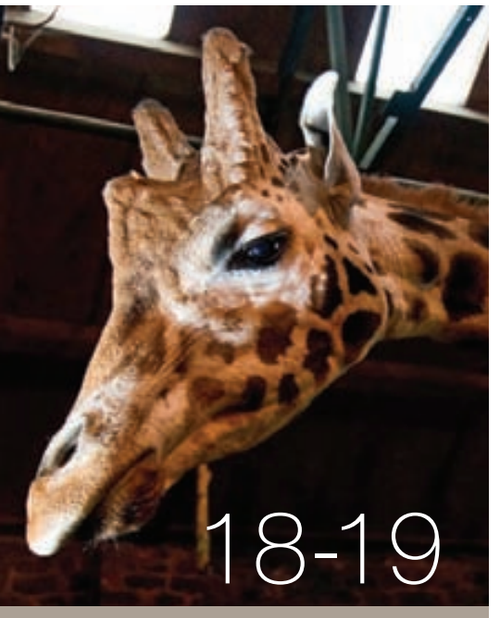
- Emergency calls to report pylon damage to National Grid can be made on 0800 404090. Note the tower's number – found just below the property plate – to help crews locate it.

ELECTRIC AND MAGNETIC FIELDS

- For information on electric and magnetic fields, call the EMF information line on 08457 023270 (local call rate). Website: www.emfs.info

GAS EMERGENCY

- 0800 111999.



NORMAN'S LUCK TAKES A TURN FOR THE BETTER

Congratulations to Norman Jenkins of Tal-y-fan Farm, Ystradowen, Cowbridge, in South Glamorgan, who is the winner of our digital camera competition in the last issue of Gridline.

"I often enter competitions but am never normally lucky," said Norman, who manages a herd of purebred Aberdeen Angus cows on 360 acres of grassland in the Vale of Glamorgan.

"I've been thinking of getting into digital photography for a while and so winning this competition has been a really pleasant surprise.

WE WANT TO HEAR FROM YOU

Please contact us if:

- You have any news of interest to other grantors
- You have a hobby or business which would make a good profile
- You would like to comment on anything in the magazine.

Phone 01926 654 948 or email gridline@uk.ngrid.com.

Gridline is produced by Summersault Communications, 23-25 Waterloo Place, Warwick St, Leamington Spa, Warwickshire CV32 5LA.

GOT A STORY?
TEL: 01926 654 958
or email gridline@uk.ngrid.com. Or write to Gridline, Summersault, 23-25 Waterloo Place, Warwick St, Leamington Spa, Warwickshire CV32 5LA.

Welcome to Gridline

A very warm welcome to the Winter issue of Gridline – and on behalf of the whole Land & Development team I would also like to take this opportunity to wish you all season's greetings and a Prosperous New Year.

On page 6 our special feature focuses on the Heritage at Risk Register which lists thousands of scheduled sites which English Heritage say are at risk of crumbling away from the passage of time or, in some cases, neglect.

Industrial structures are often particularly challenging in terms of finding a sustainable future which also preserves the heritage of the site for future generations. We take a closer look at the £70 million regeneration project to transform Chatterley Whitfield colliery in North Staffordshire – the most complete collection of pithead structures and buildings in England.

The urban theme continues on page 10 with an insight into a very modern commercial operation. The huge Hams Hall distribution centre – another National Grid grantor – enables Sainsbury's to keep the shelves of 70 of its stores constantly re-stocked with fresh produce round-the-clock.

Two articles in this issue look at aspects of National Grid's environmental policy. On page 14 we see how gas pipeline project teams use skilled local craftsmen to reinstate historic landscape features like the distinctive Devon Banks and dry stone walls when work is completed.

And on page 16 we look at National Grid's vegetation management policy. It has always been the company's duty to maintain minimum safety distances between trees and overhead power lines, but new legislation is about to place even more emphasis on measures to ensure network security in the event of extreme weather.

Turn to page 18 to read about Cheshire farmer Huw Rowlands who, as part of a wide-ranging wetland conservation programme on the farm, coppices willow branches which are being fed to giraffes at Chester Zoo.

Finally, don't forget to enter our competition on page 20 for a chance to win a weekend away for two.

Editor, Gridline

Pulling out all the stops for endangered species

Special mitigation measures were adopted when rare white-clawed crayfish were found in streams during an underground cable project from Hutton to Oxenholme in Cumbria.

"White-clawed crayfish are typically found in clean, limestone streams," said James Streets, the project's ecologist, who relocated any discovered near the trench zone to safer areas.

"They have declined in the last 30 years due to the spread of the larger, more aggressive North American signal crayfish, which is also the carrier of a fungus that has devastating consequences for the native species."

On advice from the Environment Agency, the Electricity Alliance East team built dams and temporarily diverted streams around the works. Soil and pebbles were replaced to ensure that there was no habitat loss (see page 12).

TEAM EFFORT: The lands officers prepare to put in the new fencing

Park gets a facelift

A team from National Grid's Land and Development East region rolled up their sleeves to help create a sensory garden at Tyneside Riverside Country Park in Newburn, Newcastle, as a goodwill gesture after essential works caused some temporary disruption for the park's visitors.

Five pylons in the 160-acre park were affected by refurbishment of the overhead line from Eccles, in Scotland, to Stella West, Newcastle.

During the team day the lands officers delivered timber and installed new fencing. National Grid is also funding the planting of new trees to replace those cut when access roads were put in.

"We have come to expect a high standard of reinstatement from National Grid and we haven't been disappointed yet," said park ranger Gillian Brown.

TRIUMPH: Community members with Martin Kinsey, Stephen Crabb and Welsh Assembly Member Paul Davies

Farm scheme bears fruit

Preseli Pembrokeshire MP Stephen Crabb has been down on the farm to see the results of a three-year funding partnership between National Grid and the Mount Community Association in Milford Haven.

Visiting the Mount's farm at Llanstadwell, the minister met three part-time employees who have gained jobs through the New Deal Scheme thanks to National Grid's support. A further six jobs have also been created at the Mount Community Association, three of which have gone to Mount Estate residents.

Set up in November 2007, the farm produces a wealth of plants and vegetables, which are now sold to the Estate's residents. An outdoor classroom operates twice a week for year 10 and 11 schoolchildren, who use the farm for outdoor curriculum activities, and there is a weekly children's gardening club where youngsters can learn about where their food comes from.

"Supporting local projects such as this is our way of saying 'thank you' to the community for its understanding during the construction of the Milford Haven gas pipeline project," said National Grid project manager Martin Kinsey.

DVD is a fund of information on hedges

Gridline has copies of a DVD about hedge management for the first 100 grantors to contact us.

According to Natural England, hedgerows are the 'service stations' of the countryside and play a key role in supporting a variety of wildlife.

Cirl buntings, tree sparrows, dormice and bats are just some of the species that need hedges to nest in or for their food supply.

Entitled A Cut above the Rest the 25-minute DVD has been produced by an alliance of organisations who have got together to promote essential hedgerow management – including Natural England, the National Hedgelaying Society, the Campaign to Protect Rural England (CPRE), the RSPB, the Tree Council and Defra.

To be in with a chance of obtaining your free copy of this DVD, send your name and address to: Gridline DVD offer, c/o Summersault Communications, 23-25 Waterloo Place, Warwick Street, Leamington Spa, Warwickshire CV32 5LA or, alternatively, email gridline@uk.ngrid.com.

MILESTONE: (below left to right) Vincent de Rivaz, EDF Energy chief executive; Nick Winser, executive director National Grid; David Higgins, chief executive of the Olympic Delivery Authority (ODA); Lord Coe, chairman of the London Organising Committee of the Olympic Games & Paralympic Games (LOCOG); Rt Hon Tessa Jowell MP, Minister for the Olympics

Going, going gone

The project to underground National Grid's electricity supplies running across the 2012 Olympic Games site is due to complete in December with the dismantling of all 29 pylons on the now redundant 275kV overhead line between Hackney and West Ham substations.

The second circuit in National Grid's 6km underground cable tunnel was electrified in September.

"Pylon removal started on 29 September as scheduled more than three years ago," said Owen Keith, National Grid's Olympic senior project manager.

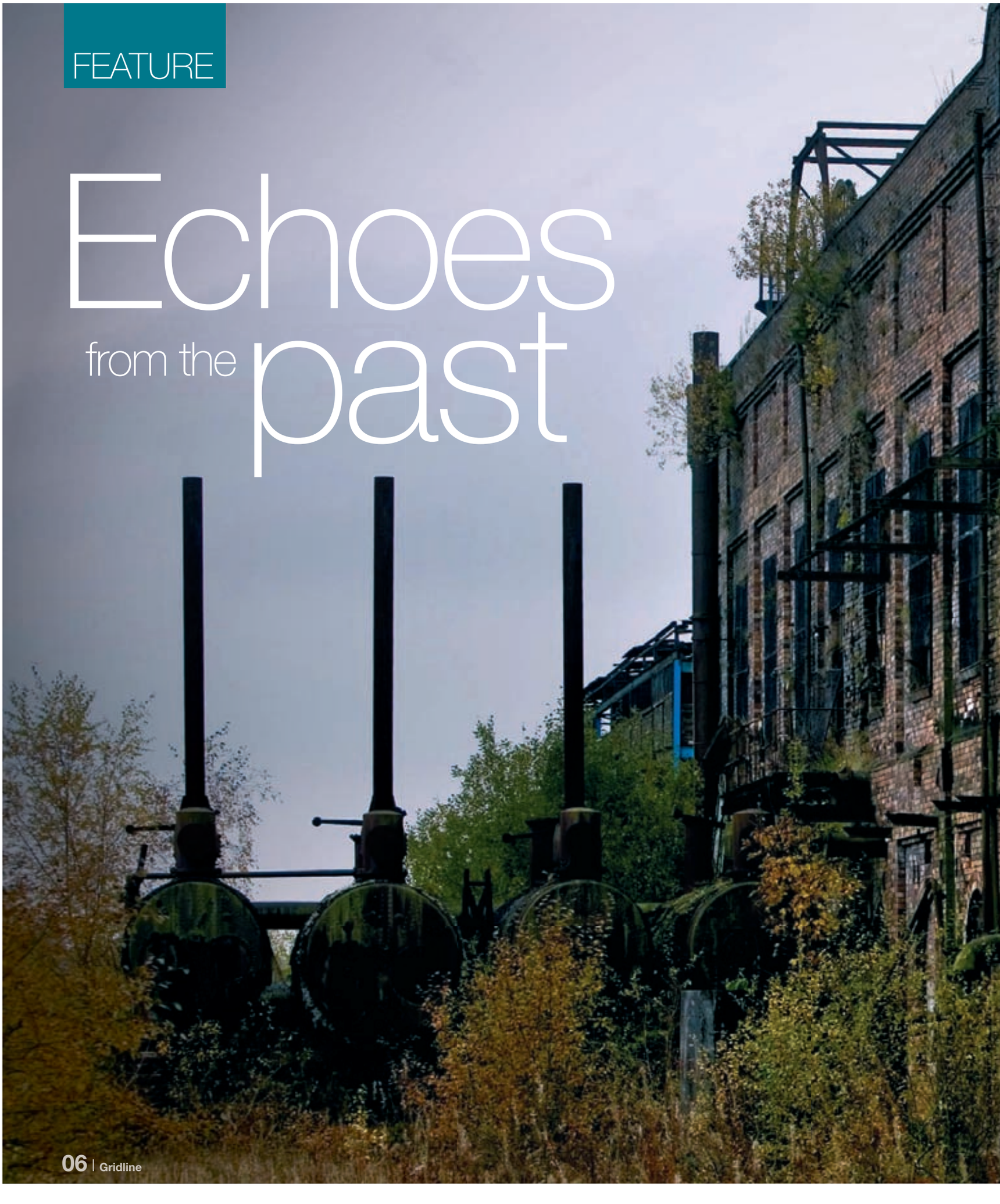
The National Grid pylons, each up to 60 metres high, were removed over a three-month period, focusing first on areas such as the Olympic Village where ongoing construction is concentrated.

In open parkland and other spaces – including a golf course – a number of pylons were felled in a controlled manner. After the rear supports were cut through and the front legs partially severed, the pylons were pulled over using cables attached to tractor units.

In other more restricted locations the pylons were dismantled in sections using 200-tonne cranes.

FEATURE

Echoes from the past



A former colliery in North Staffordshire, which has been referred to as the 'Stonehenge of the industrial revolution', is among thousands of scheduled monuments at risk from neglect and decay

With its towering brick chimney and huge pithead wheels outlined against the sky, the distant view of Chatterley Whitfield Colliery on the north-eastern outskirts of Stoke-on-Trent is certainly impressive.

Closer up, however, the rusting metalwork, broken windows and derelict buildings make it clear that the glory days of this former coalmine have long since gone.

The colliery is one of nearly 6,000 threatened sites on a Heritage at Risk Register compiled by English Heritage, the national body charged by the government with the role of caring for the historic environment.

Earlier this year it reported that of the 70,000 protected heritage sites assessed so far 1 in 12 is at high risk from neglect, decay or inappropriate development. Pooling data on a register enables experts to see the big picture for the first time and to prioritise actions that need taking.

"In today's fast-changing society this heritage is arguably more important than ever, providing a sense of permanence and continuity, a focus for social cohesion and a sense of identity," said Simon Thurley, the chief executive of English Heritage.

The Heritage at Risk Register expands the organisation's 'buildings at risk' listings which it has compiled since 1998, by adding scheduled monuments and archaeology, registered historic landscapes, parks, gardens, battlefields and even shipwrecks. In the next year or two it intends to include conservation areas, listed places of worship and Grade II listed buildings.

Scheduled monuments include some of the nation's most valued archaeological sites and landscapes – prehistoric burial mounds, stone circles, castles and abbeys – as well as more recent military and industrial sites like Chatterley Whitfield colliery.

"The site is the most complete example of a deep mined pit in England with a variety of pithead buildings which illustrate the history of coal mining from the 1840s right through to the 1970s," said Andrew Patterson of English Heritage.

The colliery fed the voracious appetite of North Staffordshire's iron and potteries industry throughout the 19th century. At its height in the late 1930s it employed 4,000 miners and was the first colliery to produce 1 million tonnes of saleable coal in a single year.

The mine's fortunes changed after World War II as oil imports increased and the coal industry contracted. The pit was nationalised in 1947 and, after an initial period of investment, a decline set in which culminated with closure in 1976.

With the backing of the National Coal Board and the local authority, the first underground mining museum in the UK was established at the site in 1979. But this, too, closed eventually in 1993. In the same year the whole 18-acre site with its 34 buildings and structures was designated a Scheduled Monument by English Heritage.

£70 million

– the estimated cost of the regeneration project at Chatterley Whitfield

UNITED FRONT: (left to right) Jim Worgan, Councillor Adrian Knapper and Andrew Patterson

The colliery is owned by the local authority (and National Grid grantor) Stoke-on-Trent City Council, which is working to find a future for the site in partnership with English Heritage, Advantage West Midlands, Joan Walley MP for Stoke-on-Trent North, national regeneration agency English Partnerships and the community action group, the Friends of Chatterley Whitfield.

As part of a phased regeneration plan, a new access road to the colliery has been created and the Grade 2 listed main offices building has been sympathetically restored and redeveloped as a community space and offices.

Work starts early next year on transforming the 50-hectare area surrounding the colliery – including the former spoil heap – into a recreational country park funded by an £8 million grant from the National Coalfields Programme.

"As the custodians of Chatterley Whitfield we have a duty to find a sustainable future for the site," said Councillor Adrian Knapper, Stoke-on-Trent City Council portfolio holder for regeneration. "We have already demonstrated how some of the buildings can be brought back into use in a way which creates jobs and adds value to the community, while also generating revenue for ongoing maintenance.

"The whole Potteries conurbation is undergoing a multi-million pound transformation aimed at bringing economic prosperity and new amenities to the area, while also protecting and bringing a new sense of purpose to heritage sites like these."

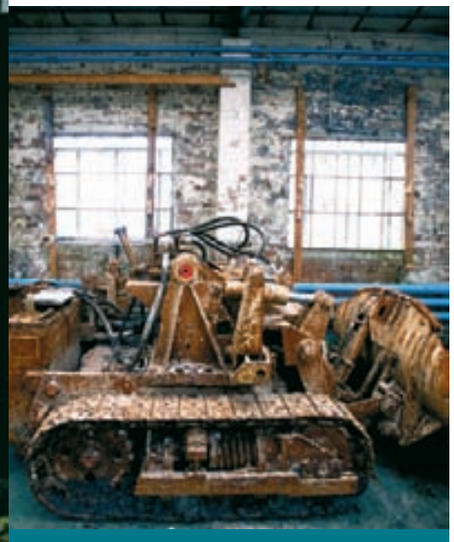
According to English Heritage the estimated cost of regenerating the former colliery and its surrounding land is likely to exceed £70 million and it could take up to 10 years to complete.

Last year the organisation committed £3 million towards future restoration of structures like the massive Hesketh Heapstead winding gear and the Art Deco pithead baths, where up to 2,000 men at a time could shower after coming off shift.

"When constructed in 1938 the baths marked an important shift in social attitudes to employees," said ex-NCB senior administrative officer Jim Worgan, who was the museum's curator for four years, and is today chair of the Friends of Chatterley Whitfield. "Even then the miners had to pay sixpence a week for the right to use them until nationalisation nine years later."

With the majority of the colliery in a derelict state for 34 years, Jim fully accepts that restoring the whole site is impossible, but he would still like to see some sort of museum devoted to the history of coal mining in the area.

"The buildings and structures tell a very human story about the people who worked here which must be preserved for future generations. Once these monuments to our industrial past are gone, they're gone, and they can't be brought back."



ARE YOU THE OWNER OF A SCHEDULED MONUMENT OR LANDSCAPE AT HIGH RISK?

English Heritage is contacting all owners of scheduled monuments and historic landscapes at high risk to find out how it can best help them to repair the national treasures in their care. It also needs to check that is has correct details for the next Register.

Sometimes restoration is minimal and inexpensive and grants may be available from various sources for even minor works such as removing bracken, or protecting against rabbits. For more significant projects English Heritage can help unlock sources of funding, advise on the best and most economical methods of repair and, in some cases, encourage other organisations to become partners to the solution.

To arrange a visit or ask for more information contact your nearest English Heritage regional office. Details at: www.english-heritage.org.uk/contactus

Q&A

MONUMENTAL CHALLENGE

The Heritage at Risk Register highlights scheduled monuments and historic landscapes as being particularly vulnerable to neglect and decay. **Dr Vince Holyoak** of English Heritage explores some of the issues

Q What are scheduled monuments?

A. There are almost 20,000 scheduled monuments nationally. They are our most valued, nationally important archaeological sites and structures, and protection through scheduling can only be conferred by the Secretary of State on advice from English Heritage.

Q What's the purpose of the Heritage at Risk Register?

A Our ambition is to compile a kind of Domesday Book of the condition of our traditional buildings, the landscapes and the ancient monuments which are testimony to the lives of earlier generations. We want to create a definitive record showing how many sites are under threat, where, what from and what we can do about it.

Q What are the most common threats to heritage?

A There are many threats. They include ploughing, scrub and tree growth, lack of funds, burrowing animals, inappropriate development, vandalism and natural erosion. Some of these problems may be easy to solve – for example clearing scrub around a medieval hall – but others require the efforts of a wide range of people working together, to find a new use for a building perhaps, or to carry out major restoration works.

Q Are scheduled monuments particularly at risk?

A Yes, one in five scheduled monuments is designated high risk – more than listed buildings. But the primary cause of damage and decay is a lack of day-to-day management.

Q Why is this so?

A Monuments are particularly threatened because they are often situated in an environment where land use is incompatible with their survival without positive management action. And while buildings generally have some economic value to their owner – particularly when capable of re-use – ancient monuments tend to be of little direct economic benefit and so are more likely to be neglected.

Q How does listing help?

A The Register seeks to evaluate the condition of monuments and the extent to which they are at risk, and to establish priorities for action and management. Through its ranking of threats to protected heritage sites it provides an action plan for dealing with the most urgent cases. It also identifies the kind of threat faced by particular types of heritage, which helps to establish solutions which can be commonly applied.

Q Is the Register a 'naming and shaming' exercise?

A Inclusion in our listings implies no criticism of the owner, many of whom we know are actively seeking ways to secure their future. Our aim is simply to keep attention focused on these sites, and for the Register to act as a working tool to help define the scale of the problem and prioritise actions.

Our ambition is to compile a kind of Domesday Book of the condition of our traditional landscapes and ancient monuments

Q How damaging is ploughing?

A Surveys in 2003 showed that in Essex, for example, fewer than 10 of the 1,200 recorded burial mounds survived above ground. Intensive farming methods since the war have accelerated the damage. Stopping cultivation and returning the site to pasture is one solution, but isn't always the answer because rabbits and scrub could take over.

Q What's the solution?

A We're also doing research into other possibilities, including reducing the depth of cultivation. Above all, we're keen to encourage entry into things like Natural England's Environmental Stewardship scheme, which takes a balanced approach not just to solving the initial problem, but also to the longer-term management of such features.

Q What advice is available?

A English Heritage provides online advice to landowners and other site managers via the Historic Environment Local Management website: www.helm.org.uk. Advice may also be sought from our environment field advisors or the network of local authority historic environment countryside advisors that we co-sponsor within local authorities.

FEATURE

Food on the Move

Gridline goes behind the scenes at one of the UK's busiest retail distribution centres, where trucks arrive and depart every two to five minutes

ROUND THE CLOCK: The facility operates 24 hours a day, 364 days a year

Sainsbury's Regional Distribution Centre (RDC) on the Hams Hall industrial park, near Coleshill, was established in 2002 on a site which was once Europe's largest power station until it was demolished some 15 years ago.

Reminders of the area's past as a generating hub remain in the shape of National Grid's substation and the lines of pylons which still criss-cross the landscape – including one located within the perimeter of the Regional Distribution Centre itself.

The Hams Hall RDC operates 24 hours a day, 364 days a year, serving 72 stores in the region. It distributes fast-moving goods (non-perishable items known as 'ambient' products), chilled (temperature controlled foods like ready meals), produce (fruit and vegetables) and cut flowers. Slow-moving lines (electricals and clothes etc) and frozen foods have their own distribution depots in strategic locations.

Around 1,200 people work at the 700,000 square-foot facility. Very much a self-contained community, the workforce has access to an open learning centre, prayer room, rest rooms, canteen and even a gym.

Long gone are the days when distribution centres were warehouses holding large amounts of stock. "Just-in-time is now the norm with products coming into the RDC and out again within a 12-hour timeframe," explained Julie Warner, communications coordinator at the site.

From an order being placed to delivery takes only 24 hours and in the lead-up to Christmas around 2.2 million cases of products are supplied each week to stores. Trucks arrive and depart from Hams Hall on average every two to five minutes, loading and unloading at a total of 167 dock doors on both sides of the building.

IT'S A FACT

- Vehicles arrive/depart every two to five minutes
- The depot handles 3,500 product lines
- It can hold 1 billion soft drink cans
- The site circuit is approximately a mile long
- 15 football pitches could be fitted into the work area
- The sorter conveyor can transport 23,000 cases an hour

DRIVING SEAT: Transport manager Adrian Fraser looks after a fleet of 200 trailers

WAGONS ROLL

"Chilled produce is usually delivered overnight so that it is in the store first thing next morning," said Adrian Fraser, transport manager. "Non-perishable deliveries follow through the day.

"The transport fleet includes around 93 tractor units and 200 trailers. Almost all our 265 drivers are Sainsbury's employees. They clock up around 250,000 kilometres a week, consuming approximately 64,000 litres of diesel. That's enough to go round the world 1.5 times a week.

"Health and safety is an absolute priority at Sainsbury's. It's part of my job to strictly monitor drivers' hours and rest periods. Drivers can be fined up to £2,500 for tachograph infringements and as transport manager I can be fined the same amount – and could technically even end up in prison."

The supplier sends an electronic Advanced Shipped Notice to the Regional Distribution Centre on the day of delivery and is assigned a docking location and a time of arrival. To avoid congestion, deliveries are expected to be on time or within half an hour either side of the scheduled docking time slot.

On a typical day suppliers start supplying chilled products at about 3am, with the intensity of deliveries building as the hours pass.

Non-perishable products are picked manually using wireless wrist 'watches' instead of paper lists. The chilled food sorting operation, on the other hand, is highly automated.

Pallets are delivered straight into a special multi-storey buffer zone which is kept at a constant temperature between 0.5˚C and 1˚C. When enough product is ready, automatic handling equipment sends the pallets to 32 strip stations where the cases are unloaded manually on to conveyor belts.

On their journey through the sorter conveyor the items are read by barcode scanners which automatically route each case to one of 180 chutes for dispatch to individual stores.

"The idea is to run successive waves of similar products for all the intended store deliveries," said Julie. "The system delivers the items to the marshalling points so that the cages are packed in a store-friendly manner. Items are placed together, for example, that are shelved close to each other on the shop floor."

Planning permission is currently being sought for a two-megawatt wind farm at the site, which would be sufficient to meet around 20 per cent of the facility's entire electricity needs.

"Assuming that the project gets the go-ahead, power generation might be coming back to the Hams Hall site after all," said Julie.

Powerful connections

National Grid is spending £3 billion a year until 2012 reinforcing and expanding its electricity and gas transmission networks to meet future energy needs

CANTERBURY TO KEMSLEY OVERHEAD LINE REFURBISHMENT

» When: December 2007 to September 2008.
» Why: A refurbishment of 86 pylons on the 28km overhead power line between Canterbury and Kemsley in Kent has been carried out. The works are part of a wider investment programme to reinforce the electricity network across the Thames Estuary, in preparation for the opening of the new BritNed Interconnector with the Netherlands and various other projects.
» What: A diversion involving three new pylons has also been constructed to link up with a 400kV substation being built at Cleve Hill, in Graveney, North Kent. The new substation will connect the planned London Array offshore wind farm (set to be the one of the world's largest wind farms when fully operational) into National Grid's overhead transmission network in 2011.
» Lie of the land: "Challenges included crossing motorways, railways and public footpaths," said Alan Lodge, Electricity Alliance East project manager. "A range of measures were also taken to minimise our impact in the Swale Special Protection Area, the largest grazing marsh in Kent. Its dense population of invertebrates and algae beds is a valuable feeding source for water birds."

HUTTON TO OXENHOLME CABLE INSTALLATION

» When: February to November 2008.
» Why: The new underground electricity cable in Cumbria is part of a major upgrade by Network Rail to the West Coast Main Line rail service to enable the introduction of new high-speed trains.
» What: The new cable was laid over a 4.2km distance from National Grid's existing 400kV substation at Hutton to a new trackside feeder station being constructed by Network Rail on land next to the rail line at Oxenholme station.
» Lie of the land: "The extremely wet weather this summer and the marshy and hilly nature of the terrain created considerable engineering challenges," said Electricity Alliance East site delivery manager John Modlinksy. "We used open-cut digging techniques to pass underneath protected hedgerows at a depth of three metres and mitigation measures were taken where the cable crossed streams containing salmon, trout and white-clawed crayfish."

NORTH EAST OVERHEAD LINE REFURBISHMENT PROJECT

» When: October 2007 to October 2010.
» Why: Overhead lines between Scottish Power's substation at Eccles, near Coldstream, and National Grid's substations at Blyth and Stella West, Newcastle upon Tyne, are being refurbished. Increasing transfer capacity between Scotland and England will help prepare the network for the connection of renewable energy generation schemes in Scotland.

» What: During 2008 a total of 78 towers on the 104-kilometre Eccles to Stella West overhead line were refurbished. The remaining 218 will be completed in 2010. Work starts in April 2009 on the 74 towers of the 26km line between Blyth and Stella West substations. In 2010 the voltage on this line will be upgraded from 275kV to 400kV. As a result six pylons within the Hadrian's Wall World Heritage Site will be removed.
» Lie of the land: "One tower directly straddles Hadrian's Wall and special consent from the Secretary of State was required to start work," said Doug Gray, site delivery manager Electricity Alliance East. "Mitigation measures to protect the site included using a special plastic access roadway for plant and men and the use of scaffolding."

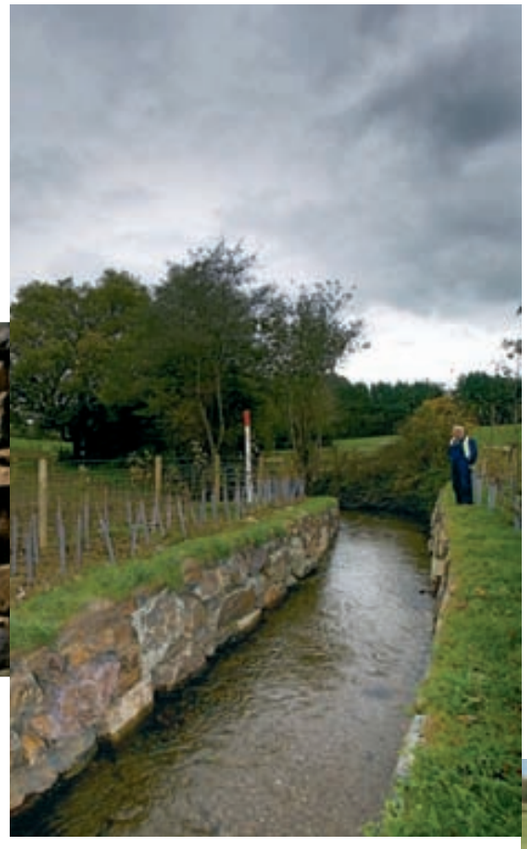
HEYSHAM RING OVERHEAD LINE REFURBISHMENT PROJECT

» When: August 2007 to December 2009.
» Why: Refurbishment is necessary for the overhead lines between National Grid's substations at Hutton, Heysham, Penwortham and Stannah on the west coast of Lancashire – known as the Heysham Ring. The work will enable the company to better manage the flow of power throughout Britain and strengthen the network between England and Scotland to allow new sources of renewable energy to be connected to the transmission infrastructure.
» What: Refurbishment of the transmission line between Heysham, near Morecambe, and Penwortham, near Preston, began in 2007 and has now been completed. Further work between Penwortham and Hambleton and Hambleton and Heysham begins in March 2009.
» Lie of the land: "Next year we will be making use of the SkySafe scaffoldless system of pulling new conductors into position at road crossings and other locations, which will significantly reduce the need to access grantors' land, and minimise disruption," said Dave Allcock, Electricity Alliance West project manager. The routes cross a number of Sites of Special Scientfic Interest (SSSI) including the Lune Estuary near Morecambe Bay, and the Wyre estuary – a Ramsar site and one of the largest intertidal estuarine flats in Britain.

Keeping in character

How National Grid protects and restores precious hedgerow and dry stone wall landscape features during new gas pipeline construction projects

WORK OF ART: Project team member Tony Short surveys one of the completed walls



CHAMPION: (below) Ilkley-based waller Philip Dolphin

While National Grid is at pains to avoid sensitive environmental areas when it plans new gas transmission pipeline projects, inevitably routes do sometimes pass through some of the most beautiful and unique landscapes in the United Kingdom.

"On completion the aim is always to reinstate the land to its original condition as soon as possible – and that includes features which give an area its essential character like dry stone walls and hedgerows," said Steve Yeoman, environmental advisor for construction at National Grid.

"By using skilled craftsmen to reinstate these features, and by planting new trees and carrying out other habitat improvement schemes, we can enhance the environment and improve biodiversity close to pipelines," he added.

The 73km South West Gas Reinforcement Project from Ilchester, Somerset, to Lyneham, Devon, has involved crossing highly distinctive boundary features called Devon Banks.

Typically about 4-5ft high, these hand-built earth banks have a wide base and sloping sides. Faced in stone or turf, the banks are topped with hedge plants, giving country lanes their characteristic high-sided appearance.

The banks were originally built to contain livestock but also acted as boundary markers denoting the wealth and status of the landowner. Today they also play a vital role as a wildlife habitat for a wide range of plants and animals.

National Grid's project team has worked closely with Devon County Council and Natural England, with the restoration carried out by skilled local labour under the supervision of a specialist recognised by the Devon Skills Trust.

"On the Fishacre to Lyneham stretch of the pipeline up to 40 skilled wallers worked on reinstating around 300 Devon Banks," said Ian Sarson, National Grid's senior project manager.

"We've used a new construction technique which greatly speeds up the restoration process. Bio-degradable hessian sacks are filled with the local 'gene pool' soil preserved from the original breach. These are placed in the interior of the bank and become an integral part of the construction, with the roots later growing through the material and interlocking with the contents of other sacks," he explained.

The banks are then finished with a layer of jute sacking and another layer of soil. Into this are planted native shrub species, including blackthorn, dogwood, hawthorn and holly.

"After just two seasons, sections on earlier stretches of the pipeline are already growing back really well," said Ian.

Two years ago National Grid began work on a new gas pipeline project from Pannal, Lancashire to Nether Kellet in Yorkshire, passing through the edge of the Yorkshire Dales National Park in two places. The project team reinstated a total of 362 dry stone walls during the construction.

Dry stone walls are integral to the economic and social fabric of the Dales and surrounding area. Traditionally built to keep sheep in specific fields, like the Devon Banks they have an historic significance in the landscape and provide important habitats for lichens and mosses, as well as insects and invertebrates.

"We took on 21 self-employed dry stone wallers, most of whom were locally based," said Steve Ellison, National Grid project engineer.

Among those employed was Ilkley-based Philip Dolphin, who in 1991 won the combined English and Scottish dry stone walling championships.

"The walls are usually about 4ft 6inches high and the width at the base is about twice as thick as at the top," said Philip. "Ironically most dry stone walls are built in areas that are pretty wet – such as Yorkshire and the Lake District. But the principle is that the walls are built without mortar, and knitted together by stones skilfully placed one on top of another so that they don't need a binding agent."

On the completion of a project National Grid takes responsibility for any outstanding reinstatement issues. "We are fully committed to working with grantors to rectify any problems," said Steve Yeoman.

Maintaining sufficient clearance between overhead lines and trees is essential to ensure that even the worst weather conditions don't interrupt power supplies

When tree's a crowd

In October 2002 England and Wales were hit by a particularly severe storm with winds approaching 100mph. Although National Grid's high voltage transmission lines were unaffected, around two million domestic customers suffered power cuts – and many of these outages were later attributed to trees or their branches falling on overhead lines.

Largely as a result of the lessons learnt in 2002, new legislation comes into force next month placing a greater duty of care on National Grid and the Distribution Network Operators (DNO) to ensure network resilience in the event of extreme weather.

The company already spends millions of pounds each year on cutting back vegetation underneath overhead lines in the interests of public safety and to maintain the operational integrity of the network.

"The aim is to remove vegetation to around eight metres," explained Steve Tinker, National Grid's overhead line delivery manager with lead responsibility for vegetation management. "That figure includes the minimum safety distance stipulated by the Energy Networks Association (ENA) and an estimated three years' regrowth."

If a tree branch gets too close to a line there's also a danger of an electrical current arcing across resulting in a flashover which can cause a loss of supply, a fire, or the tree conducting electricity to the ground.

"The new legislation requires more consideration of so-called 'side screen' trees which run parallel to overhead lines and which could fall and interrupt power supplies in the event of a storm," continued Steve.

National Grid's tree cutting programme has been co-ordinated by specialist contractor Fountains since 1999. Each year the company surveys about half of the 22,000 spans (a section between two pylons) which make up National Grid's 7,208 kilometres of overhead line. Various other checks are made on vegetation during the year by National Grid, including walking the line and helicopter patrols.

Using the survey information Fountains then prioritises its cutting plan for the year ahead (usually involving around 2,200 spans) focusing first on those trees nearest lines.

"It's not a matter of cutting or trimming everything that is within falling distance," pointed out Tom Blackburn, Fountains service delivery manager. "Our surveyors use their expertise to assess each case on its merits.

"In some cases, for example, the tree closest to the line may pose less of a threat than one further away which is in worse condition or is a faster growing species like willow or chestnut."

A more detailed risk assessment is currently being carried out by Fountains, starting with the most strategically important routes, which if disrupted would have the greatest impact on network integrity.

Data from a variety of sources is analysed, including, growth rates, altitude, the wind speed and direction. This information helps to

pinpoint those higher risk spans which should be surveyed first for tree health.

"We use Global Positioning System (GPS) to capture the position of a tree. The GPS position is then related to National Grid data to give the exact maximum sag at that point," said Tom.

"Sag can vary according to the type of conductor, the length of span, loading and ambient air temperature."

New ways of controlling vegetation growth are also being examined. Integrated Vegetation Management (IVM) is the selective use of herbicide to inhibit the growth of woody vegetation under or close to power lines.

Once a low-growing shrub area is established it may only need to be treated once every five years. Studies show that maintaining low growing shrubs opens up the woodland floor to sunlight which is beneficial to flora and fauna. IVM maintains this ecosystem by preventing the re-establishment of tall wood tree species.

"Grantors and members of the public rightly value trees for many reasons – whether it's because they are attractive, good for wildlife or because they clean the air we breathe," said Steve.

"We aim for the best of both worlds. The priority is to safeguard the high voltage electricity network but we're also committed to protecting the environment in which we operate."

ELECTRICITY GRANTORS

- Contact National Grid if any part of a tree comes within about 15 metres of a power line
- Only low-height slow-growing species should be planted underneath overhead lines
- National Grid asks landowners for permission to cut back woody vegetation to within about eight metres of a line
- Before planting underneath a power line or within two metres of a pylon, contact your lands officer
- Access must be maintained to pylons so that future maintenance can be carried out safely and without damage to the habitat
- Don't plant trees over or within three metres of an underground electricity cable.

GAS GRANTORS

- Before planting any tree written approval should be obtained from National Grid
- For screening purposes or to indicate a field boundary the planting of a hedge may be permitted, but only using shallow rooted specimens eg quick thorn or broom
- Most types of tree should not be planted within six metres of the pipeline (10 metres in the case of poplar and willow)
- Trees planted between 6-10 metres away from a pipeline should be individual specimens or a single row. No dense planting should be carried out within 10 metres of the pipeline.

TO FIND OUT MORE

For more information contact your local lands officer or the Transmission Enquiries Team on 0800 731 2961.

Animal Magic

Giraffes at Chester Zoo are among the beneficiaries of an enterprising scheme by a Cheshire grantor to create a wetland habitat for birds

Huw Rowlands of Grange Farm, in Mickle Trafford, near Chester, donates willow branches harvested from the lush meadows on his farmland adjoining the River Gowy to feed Chester Zoo's hungry herds of giraffes, elephants and rhinoceros.

Supplying willow branches to the zoo is just one of a variety of initiatives taken under Natural England's Higher Level Stewardship Scheme, which Huw signed up to in November last year.

Coppicing willow branches helps the trees to produce repeated crops and prolongs their life, while opening up the site encourages breeding birds like lapwings and redshank.

The idea to supply the willow to Chester Zoo came about as a direct result of the farm's efforts to help people enjoy greater access to the countryside. Grange Farm regularly hosts interested groups of people, as well as educational access visits, and maintains a network of permissive footpaths.

"On one of these occasions a visitor asked what we intended to do with the coppiced willow branches," said Huw, who manages the farm with his father David. "When I explained we would probably burn them, she said the zoo were always after that sort of thing to feed the animals.

"I thought it was a wind-up at first, but she was serious. Now the head keeper Phil Molyneux regularly visits the farm, cuts back the trees and transports branches back to the zoo – the animals love them apparently."

Three generations of the family have managed the 240-acre farm since Huw's grandfather purchased it in 1947. Like many farmers the Rowlands decided to quit dairy farming in 2003 when milk prices fell to a point where it no longer became a viable way to make a living.

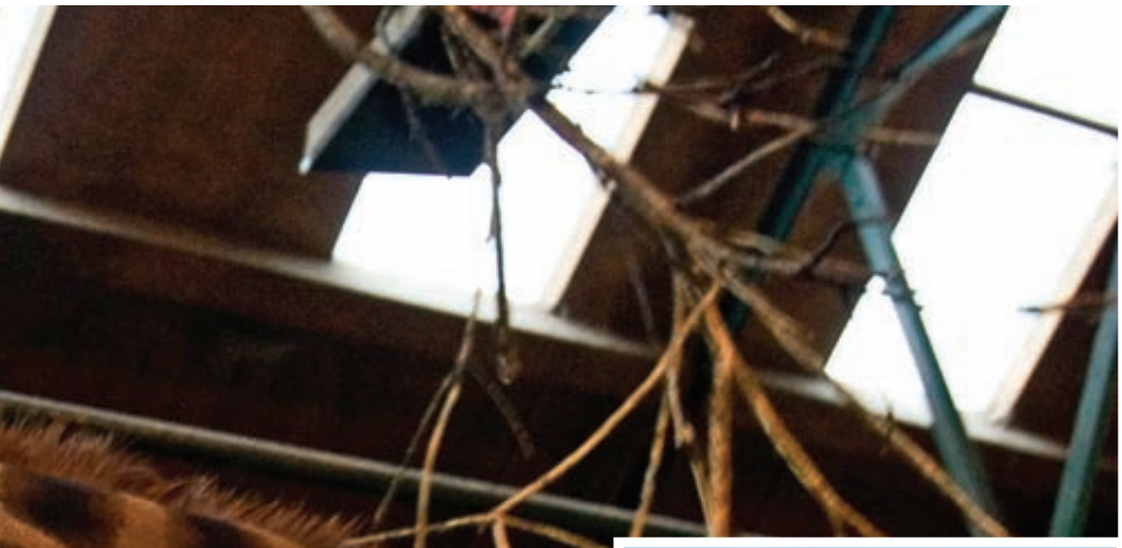
Instead the family turned to breeding native English Red Poll cattle and today have a herd of 70 animals. The breed originates from East Anglia and so is well suited to the damp conditions encountered on the farm.

The animals graze outdoors for most of the year. After reaching maturity at three years of age they are butchered locally and a range of meat products – including cuts of meat, steak pies and beef and mustard sausages – are sold direct from the farm.

To celebrate the 200th anniversary of the breed, the Rowlands have just introduced a special Mercian Red Poll 200 beer in conjunction with a North Wales brewery.

"We asked John Wood, the brewer, to get as close as he could to the distinctive chestnut colour of the Red Poll breed by adding extra roasted barley which also gives the beer a distinctive taste," said Huw.

The Red Polls also play a conservation grazing role under the Higher Level Stewardship Scheme. "The cattle browse rather than graze the meadows, creating just the right height of grass to encourage



HUNGRY CUSTOMERS: (above) Huw and Chester Zoo keeper Phil Molyneux feed the willow branches to the hungry giraffes

RARE: (above) Native breed Red Poll cattle from East Anglia play a key conservation grazing role on the farm

STEERING HAND: (right) Cheshire grantor Huw Rowlands who runs the farm in Mickle Trafford with his father David

breeding wading birds," said Huw.

Earlier this year a giant American-made rotary ditcher, leased by the RSPB, visited Grange Farm to create a series of shallow ditches, pools and scrapes near the River Gowy to encourage birds like lapwing and redshank to feed and breed. The Rowlands have also provided havens for water voles and otters along the river bank and have taken measures to reduce predators like mink.

Other conservation measures include putting back traditional hedgerows to act as wildlife corridors and planting up areas with pollen and nectar mixed seed to encourage insects and small birds. Game crops provide larger birds with shelter and feed in winter.

"The Higher Level Stewardship scheme has been key in creating a sustainable future for the farm through diversification, while collaborating with conservation groups and local businesses has become equally important," said Huw.

"For example, trainees from the British Trust of Conservation Volunteers, who are based at the nearby Trafford Mill, carry out valuable work restoring hedges on our land under the scheme. Meanwhile our beef and beer is also on sale locally at farm shops and pubs and helps to boost the rural economy."

More information at: www.redpollbeef.eu.

To contact Gridline :
✆ 01926 654 948
gridline@uk.ngrid.com
23-25 Waterloo Place, Warwick St, Leamington Spa, Warwickshire CV32 5LA.

WIN A SUPERB CAMCORDER

Fed up at missing out on recording those memorable moments? We have a fabulous Sony Handycam to give away.

The Sony DCR-HC53E Mini DV Handycam has a 40x optical zoom, 2000x digital zoom, 2.5-inch touch screen LCD, USB connector and Super SteadyShot function. It has a 14-hour battery life and comes with a rechargeable battery pack, AC adaptor and editing software.

To be in with a chance of winning this Sony Handycam, simply answer the following question:

Q What is the battery life of the Sony Handycam?

Send your answer to Gridline Handycam competition, 23-25 Waterloo Place, Warwick St, Leamington Spa, Warwickshire CV32 5LA. Note that you must be a National Grid grantor to enter this competition. Closing date: 8 Feb 2009.

WATER, WATER, EVERYWHERE
Congratulations to Gay Foster of Whitacre, Coleshill, the winner of our last photo competition on the theme of 'water' with this striking image taken during an Arctic cruise trip

Win a weekend break

The prize for our next photo competition is a relaxing break for two* courtesy of Britannia Hotels

The lucky winner will be able to choose where to spend their two-night stay (including breakfast) from 33 hotels in locations across the UK, from Aberdeen to Bournemouth.

The theme of our next photo competition is 'the weather'. Just send in your selected photograph for a chance to win this fabulous prize of a weekend hotel break.

Send your images to Gridline photo competition, 23-25 Waterloo Place, Warwick St, Leamington Spa, Warwickshire CV32 5LA. Or email images to: gridline@uk.ngrid.com. Closing date: 8 Feb 2009.

Please note only National Grid grantors are eligible to enter this competition and, regrettably, prints cannot be returned.

*Strictly subject to availability.

Britannia Hotels has a range of great-value offers at the moment, including a luxury Pamper Break, three or four-night Entertainment Breaks and Airport Stopover, as well as one, two or three-night stays. To check the full range of offers or to book visit www.britanniahotels.com